Paper TRADE JOURNAL

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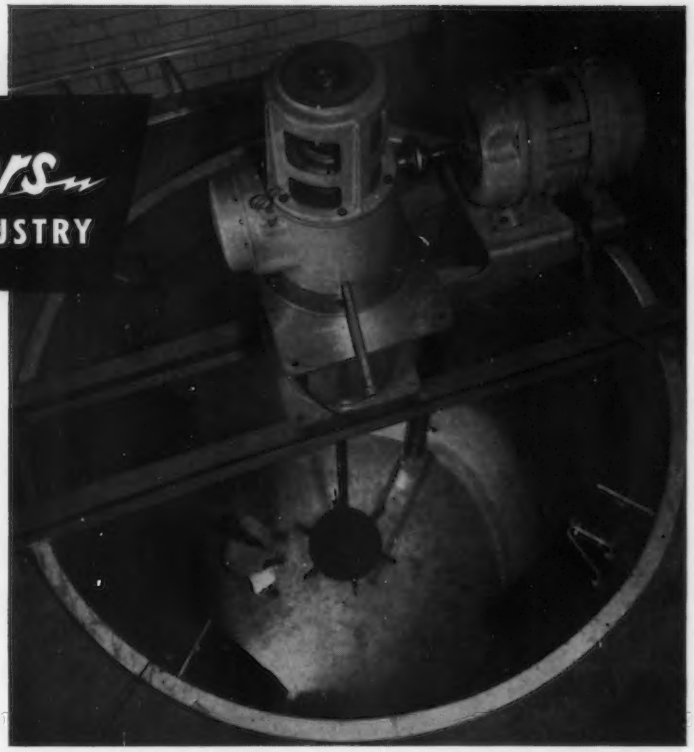

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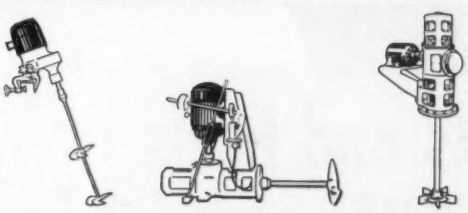

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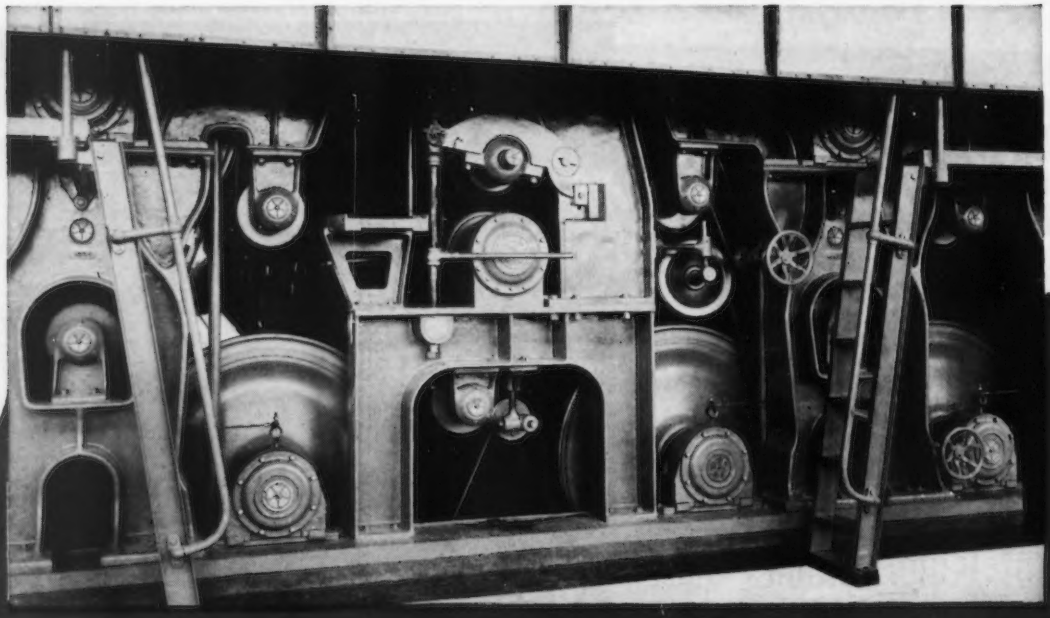

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TUNE IN: On television—the TEXACO STAR THEATER starring MILTON BERLE. See newspaper for time and station.

Paper TRADE JOURNAL

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NEXT WEEK—*Manufacturers of printing papers and everyone else interested in the fine art of Multicolor Letterpress Printing will enjoy and profit from D. J. Andella's article on the subject . . . The author's experience as printer of the* National Geographic *lends high authority to his discussion of printing methods and coated paper requirements.*

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R E M E M B E R T H E S E D A T E S

OCT. 27-28: Ninth Fibrous Agricultural Residues Conference, Northern Regional Research Laboratory, Peoria, Ill.

OCT. 30 to NOV. 1: National Paper Trade Assn., Edgewater Beach Hotel, Chicago, Ill.

NOV. 5-6: TAPPI Plastics Conference, Marshall Hall, College of Forestry, State University of New York.

NOV. 12-14: Alkaline Pulping Conference, Technical Assn. of the Pulp and Paper Industry, Battle House, Mobile, Ala.

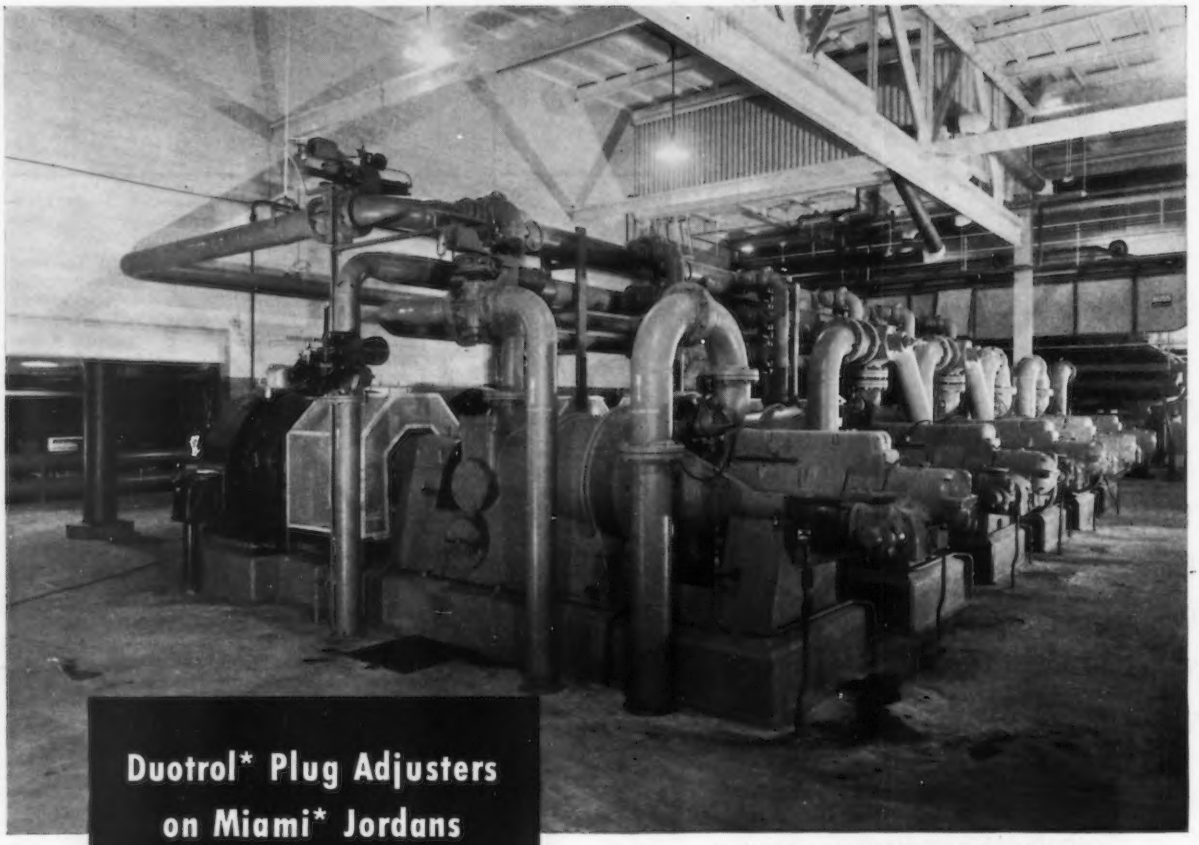
NOV. 18: Miami Valley Div., of the American Pulp and Paper Mill Superintendents Assn., Joint Meeting with the Ohio Section of TAPPI, American Legion, Middletown, Ohio.

NOV. 20-21: TAPPI Corrugated Container Conference, Schroeder Hotel, Milwaukee, Wis.

FEB. 15-20, 1953: APPA, Annual Meeting, Waldorf-Astoria Hotel, New York, N. Y.

FEB. 16-19, 1953: TAPPI, Annual Meeting, Commodore Hotel, New York, N. Y.

JUNE 9-11, 1953: APPMSA, National Meeting, Atlanta-Biltmore Hotel, Atlanta, Ga.



Duotrol* Plug Adjusters on Miami* Jordans

Six Miami No. 2-A Jordans, equipped with Duotrol, at National Gypsum Co., Pryor, Oklahoma.

The interesting thing about "Duotrol" is the fact that conditions rather than men control the plug setting.

Let the volume of stock in the line vary appreciably and the changed condition "wires" the plug to move in or back off to compensate. Let the density vary and the changed condition again "wires" the plug to change its position with relation to the shell.

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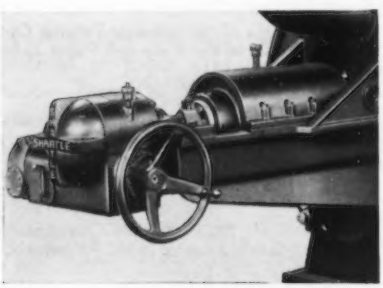

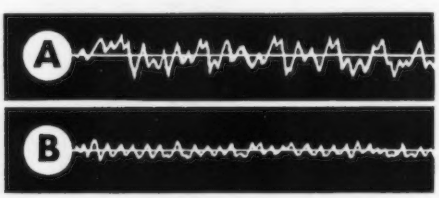

Jagged line A suggests irregular treatment of stock—when plugs are periodically reset by hand.

More even line B suggests far more uniform treatment—when automatic Duotrol plug adjusters are employed.

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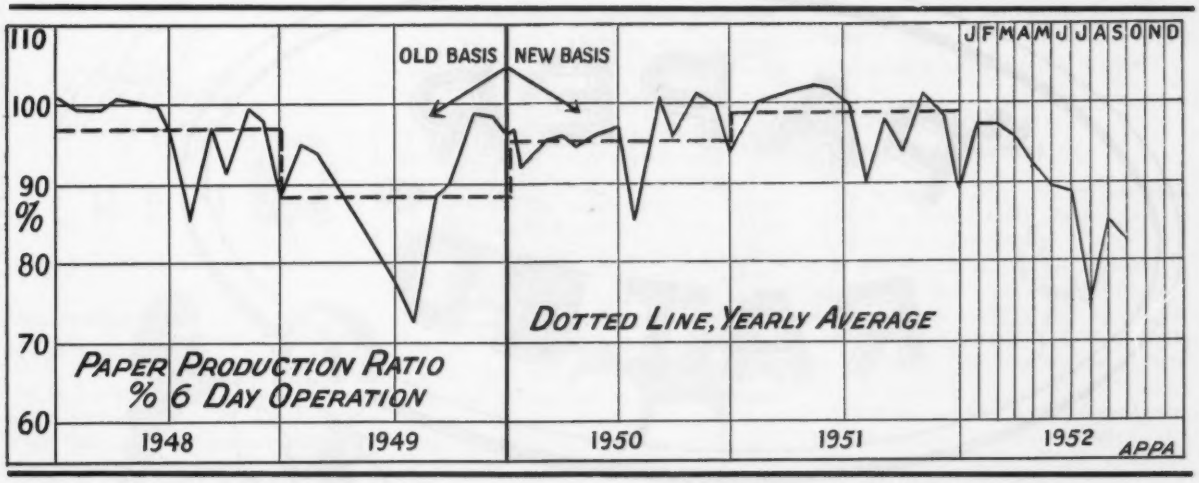

Brief of Important Figures

Source	Production	WEEK ENDING Oct. 11, '52	Sept. 13, '52	Oct. 13, '51
APPA	Paper Production Percent Capacity[3]	89.0	86.1	100.3
	Unbl. Kraft Paper Production Percent	78.3	79.3	95.9
NPA	Paperboard Operating Ratio Percent Inch Hours	96	93	90
		Sept. 1952	**Aug. 1952x**	**Sept. 1951**
APPA	Paper Production* (Except Newsprint and Building Papers) ....Tons	775,000	773,000	821,000
	New Orders ....Tons	804,000	749,000	811,000
	Unfilled Orders ....Tons	806,000	751,000	986,018
	Shipments ....Tons	748,000	765,000	811,000
		Sept. 1952	**Aug. 1952**	**Sept. 1951**
NPA	Paperboard Production ....Tons	875,455	886,035	816,356
	New Orders ....Tons	954,126	832,096	825,249
	Unfilled Orders ....Tons	459,907	388,360	458,150
	Our Customers Activities Index[1]	**Latest Mo.°**	**Previous Mo.°**	**Year Ago°**
FRS	Manufacturers Total Index	192	205	214
	Durable Mfg. Index	225	249	266
	Nondurable Mfg. Index	180	187	188
	Chemical Products Index	291	295	301
	Mfg. Food Products Index	172	166	176
	Printing and Publishing Index	145	175	155
ODC	Magazine Advg.-Printer's Ink Index	362	362	368
	Prices Index			
BLS	Consumers Price Index[1]	190.8	189.6	185.5
	Wholesale all Commodities[4]	111.8	111.2	114.2
	Wholesale Processed Foods	110.0	108.5	110.7
	Commodities other than Farm Products and Foods[4]	112.5	112.6	115.7
	Wholesale Pulp, Paper[4] and Allied Products	115.3	116.7	120.2
	Purchasing Power of Dollar, Consumers Prices[1]	52.4	52.7	53.9
	General Activity Index			
FRS	Mfg. Production-Worker Payroll[4]	120.5	126.8	126.4
	Unemployment Compensation Initial Claims (M)	1,585	978	1,086
	Miscellaneous Carloadings–Thousands of Cars	1,155	1,298	1,455
	Electric Output (Million KW hr.)	37,007	36,052	35,435
PTJ	Average 32 P & P Common Stocks as of Oct. 18	$36.01	$35.15	$39.94

[1] 1935–39 = 100 Unadjusted Index.
[2] For Five Weeks.
[3] New 6-7 day basis.
[4] New Index 1947–1949 = 100.
* For details see APPA Monthly Statistical Summary—August 1952 Estimated Figures.
° Latest Month Available on Request.
x Revised Figures.

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Paper TRADE JOURNAL

TRENDS

Pulp Producers Resist Lower Prices

It is being assumed from the many rumors of spot sales of wood pulp at lower than contract prices that there must be some truth to them.

Told over the luncheon cocktail or to competitor's salesmen are stories of unbleached sulfites, both domestic and overseas, which are being downgraded at a special price to move them. Also heard are tales of unbleached sulfites of much less than prime quality in which no one seemed to be interested. Some said they were close to a screenings grade and weren't worth more.

There appears to be a gossamer of fact in all the gossip. Factually, we have reports of actual purchases, though no one is able to offer proof, either through unwillingness to upset the market or inability to produce evidence.

As previously reported, there have been isolated lots offered for spot sale; and there probably will be others now and again. What is increasingly evident, however, is that any such distress lot will be moved with a minimum of publicity. There is a strong resistance from producers and agents to lower prices for market pulp; and no one wants to disturb the current price structure or to threaten that of the next quarter by isolated spot sales.

Buying of overseas pulps improves . . .

A major factor in the price resistance is the improved buying of overseas pulps. U. S. mills are demonstrating renewed interest in Scandinavian pulps at prices now competitive with domestic and Canadian grades, and their buying is proportionately greater.

On the whole, overseas pulps have been so well received that marked resistance to any lower prices is noteworthy. Some grades are selling well, though priced above the going level, and no accredited New York agent is selling prime grades below the contract level. For the most part, agents are highly pleased with their progress in regaining a portion of the U. S. market.

Selling prices below Swedish costs . . .

From the Swedish point of view, however, this is a mere first step in recovery. Labor and other production costs are at an all-time high, and the high prices of last winter's timber must now be met. Thus today's "depressed" selling prices are below the cost of production—to use the terminology of a writer in the *Swedish Wood Pulp Journal*. And it appears the producing mills may now expect to apply to the Swedish Government for a refund of a portion of the business cycle equalization taxes—known also as the "export tax."

Says the writer, "The situation is such that the authorities ought to consider whether a refund of previously paid 'business-cycle equalization charges' should not be made now, in accordance with the special stipulations in their relevant agreements. Otherwise temporary loans ought at least be granted from the large funds 'sterilized' from the forest industries' proceeds in the immediately preceding years."

Doubts concerning these very refunds have been voiced in trade circles here since the inception of the Fund. On this subject, the same Swedish writer says:

"The experience gained in past years of these 'price equalization' and 'business-cycle equalization' charges have been such that practically everywhere — especially among the parties in the market— it is sincerely hoped that these results of governmental control mentality will never be resuscitated."

Stocks at consuming mills drop . . .

Also a factor in market firming is the drop in stocks at paper and board mills which at the close of August amounted to 13,000 tons. Of this overall figure, 8,000 tons were in bleached sulfite, 4,000 in unbleached sulfite, and 4,000 in unbleached sulfate. Stocks of bleached and semi-bleached kraft were higher by 3,000 of the former and 2,000 of the latter, reports the Bureau of the Census.

Comparing stocks at non-integrated consuming mills with consumption during the month of August, the mills had close to seven weeks' supply of bleached sulfite on August 31, and nearly 12 weeks' stock of unbleached sulfite.

In the kraft grades, stocks-to-consumption ratio was seven weeks of bleached, 13 weeks of semi-bleached, close to four months in unbleached grades.

The pickup in board mill output (See *Table*) has been so marked since that time, however, and the upswing in corrugated and container particularly strong, that stocks of unbleached kraft pulp are likely to be much lower at this time.

From all reports, integrated kraft mills are using their own output to a large extent. Little U. S. unbleached kraft pulp is being offered to this market.

Dry Season Tightens Groundwood Market

As reported earlier, the groundwood market is considerably tighter than it has been for many months.

A dry season in the north woods as well as in the midwest has depleted water supplies and cut mill operations. Offers from Canadian and U. S. mills are limited; Scandinavian sales here have been good.

The U. S. product in the eastern market is priced at $82.50 delivered; in the midwest, where higher freight rates are involved, at $87.50 delivered basis.

Drop in Canadian Pulp Exports

A sharp drop in exports of Canadian pulps was reported to the close of August.

Total pulp exports for the year's first eight months were 1,277,514 tons, compared with 1,478,402 tons in 1951. Total tonnage of chemical pulp exported declined by less than two percent; groundwood exports were 22 percent lower, the CP&PA reports.

In the sulfite grades, the bleacheds lost 30,000 tons, the unbleacheds 68,000. Bleached kraft gained 7,000 tons, unbleached krafts lost 58,000. Loss in mechanical pulp exports was 46,000 tons.

Production during the same period was 5,899,799 tons, compared with 6,087,623 tons in 1951. Bleached sulfites accounted for 30,000 tons of the loss in output; unbleached sulfites 50,000 tons; unbleached krafts 78,000; groundwood 31,000 tons. Bleached kraft production showed a gain of 15,000 tons.

Of the total tonnage exported in 1951 — 2,343,322 tons — 1,831,421 came to U. S. mills; 217,251 tons went to the United Kingdom; 6,908 tons to Australia; 1,473 to New Zealand; 32,071 tons to Latin America; 91,798 tons went to Europe; 62,400 tons to Asia and Africa.

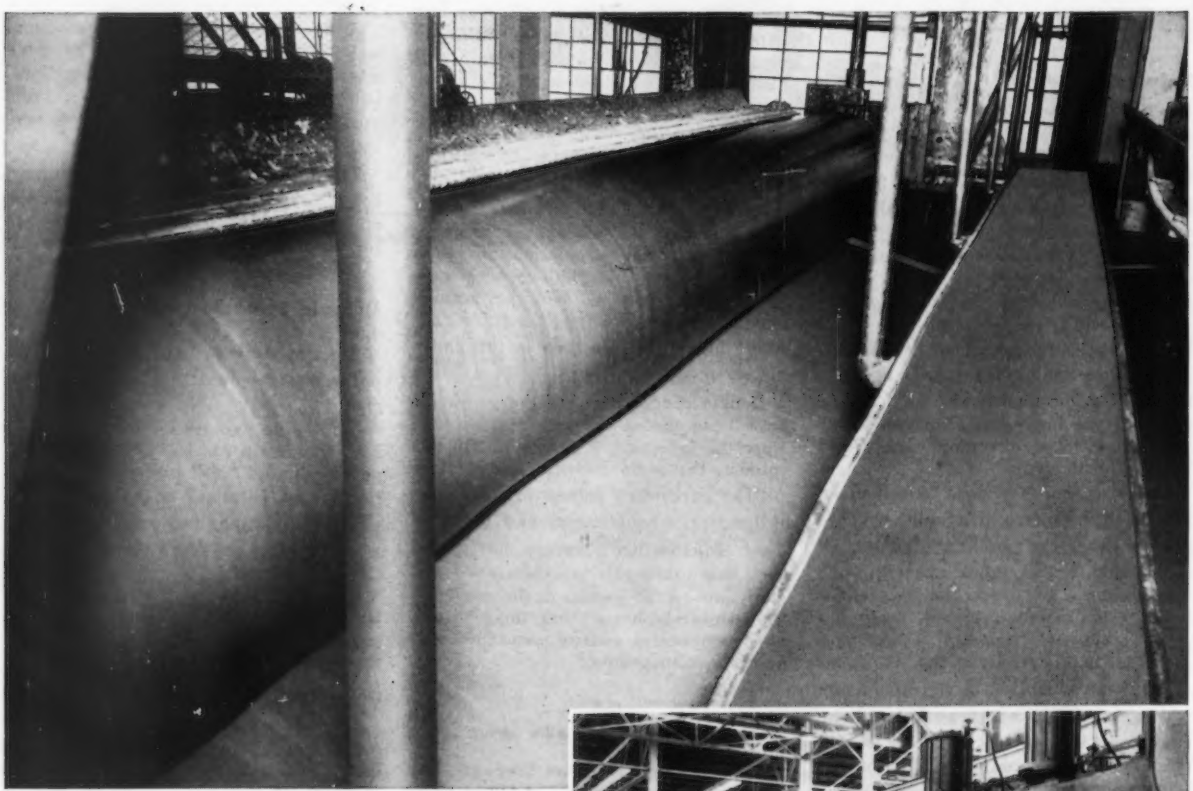
—E.P.N.

Paperboard Production (Tons)*

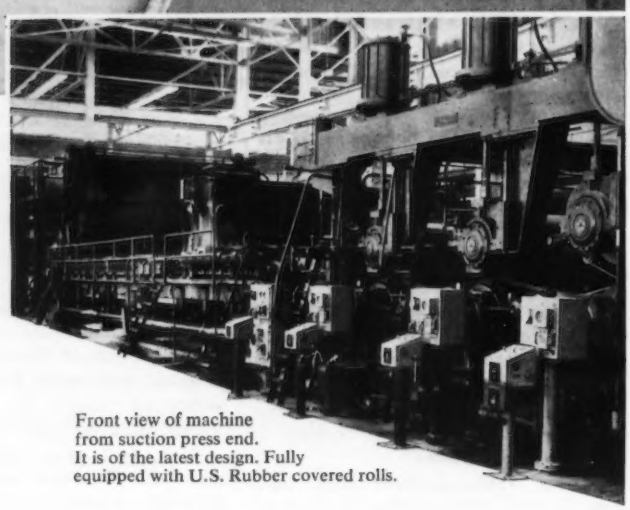
	Oct. 11 1952	Oct. 4 1952	Oct. 13 1951
Production	245,680	240,751	211,413
New Orders	236,587	335,236	171,817
Unfilled Orders	544,741	553,261	486,887
% of Activity	96	95	90

* Source: National Paperboard Assn.

What's U. S. Rubber doing in a Southern Paper Mill?



Close-up of suction press rolls in the paper mill.



Front view of machine from suction press end. It is of the latest design. Fully equipped with U.S. Rubber covered rolls.

What's U.S. Rubber doing? Well, for one thing its custom-made roll coverings are used throughout this mill. They were designed and installed after "U.S." engineers analyzed operating conditions, checked operating speeds, working pressures, types of stock—all to make sure of the best results.

For more efficient production and more economical operation, paper mill officials in all parts of the country rely on the advice and experience of United States Rubber Company technicians. For full information, write to address below.

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Further Rumors of Labrador Mill

OTTAWA — The Rothschild interests are understood to be investigating the possibilities of developing resources of Labrador and if these investigations warrant, may lead a huge development program in that area of Canada, probably involving millions of dollars.

Among the companies said to be interested in seeking development of the Labrador resources on a vast scale are Anglo-Newfoundland Development Co., Ltd., Bowater (Newfoundland) Pulp and Paper Mills Ltd., Anglo-American Corp. of South Africa, and others.

These investigations will look into the potentialities for pulp and paper operations in Labrador in addition to seeking other developments.

New Mill for Ireland

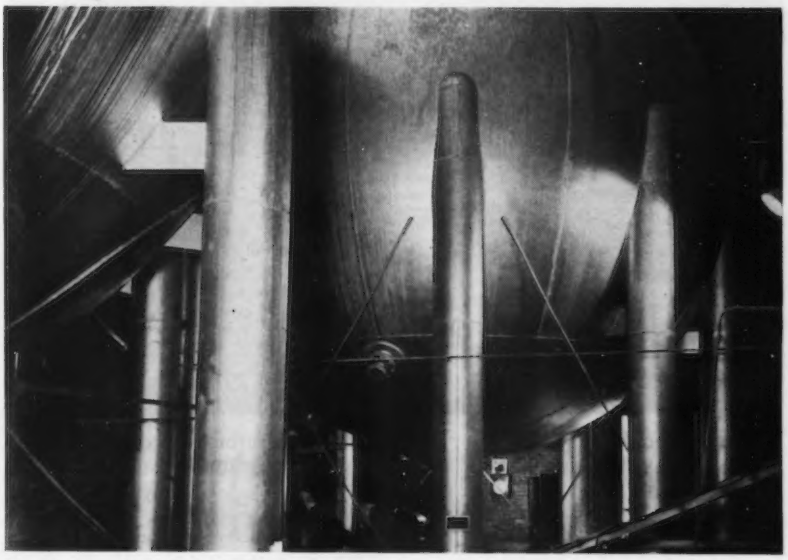
Preliminary details concerning the construction of a $2,660,000 paper and cardboard mill at Grannagh, 3 miles outside of Waterford City, were recently released.

Officials of the company claim that the new mill will be one of the largest of its kind in Western Europe. It will cover 180,000 square feet, be equipped with American and British machinery at a cost of approximately $2,100,000, and will give direct employment to 450 persons. When operating in early 1953, the plant will initially produce 200 tons of large cardboard containers and 400 tons of cardboard a week.

A wastepaper company of Cork City, which is a subsidiary of the company establishing the new mill, has begun a nationwide wastepaper collection drive, and in this connection has established depots at Dublin, Limerick, Waterford, and Cork, with the aim of collecting 250,000 tons of waste paper for use by the new mill at Grannagh when it starts production.

Fort Wayne Reports Increased Container Sales

Sales of shipping containers have increased sharply of late, according to D. G. Thomas, sales manager of the Rochester Division, Fort Wayne Corrugated Paper Co., Rochester, N. Y. He reported shipments in September jumped 26 percent as compared with the first half of the year and showed an even bigger gain from the July low.



Two Hortonspheres Built by Chicago Bridge & Iron Co. for Groveton Papers Co., Groveton, N. H. One of the Structures is 28-ft. and the other 24-ft. in Diameter. They are Designed to Operate at 75-lb. p.s.i. Working Pressure and are Used as Acid Accumulators.

N. Z. Establishes Kraft Mill

Establishment is well advanced of New Zealand's first kraft pulp and paper mills under construction by N. Z. Forest Products Ltd. at Kinleith, 144 miles south of Auckland. Maximum annual kraft pulp production will be 45,000 tons, at least 12,500 tons of which is to be exported to Australia. The paper mill alongside will produce 25,000 tons of kraft paper annually. Integrated with pulp and paper production is a daily sawmill output of 180,000 board feet. Annual timber production from the company's four sawmills is 60 million board feet.

Units of the Kinleith scheme completed and in use include a Swedish gangsaw mill, the latest type of American band mill for handling large logs, engineers' workshops and stores, a garage servicing over 300 types of vehicles of all descriptions and an administration block housing a clerical staff of 72.

The paper mill is being erected by the company's own building department.

Over 1,600 people are employed in the Kinleith area and the Auckland plants. When the pulp and paper mills commence production the number will be over 2,000. In the present staff some twenty nationalities are represented.

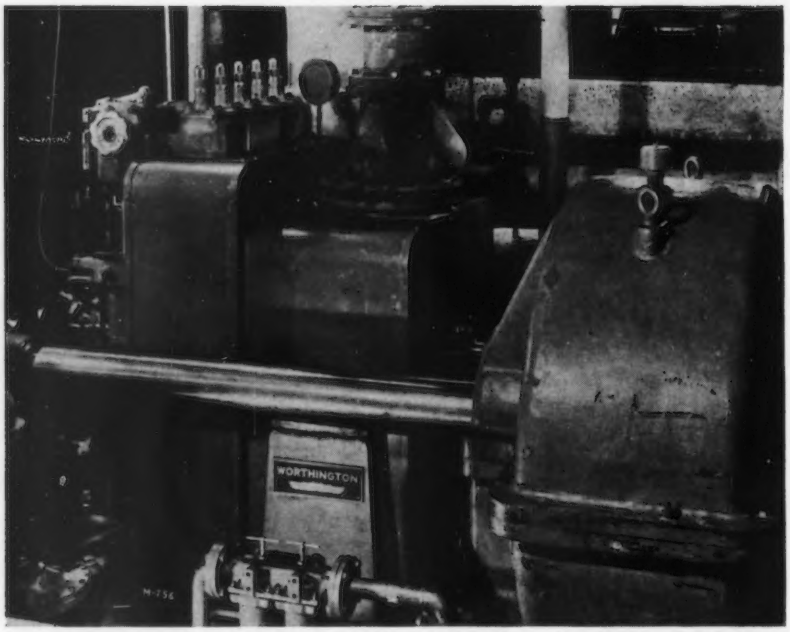
At the Company's housing settlement at Tokoroa, 4 miles from Kinleith, over 300 employee homes have been built of a total of 600.

N. Z. Forest Products owns 176,000 acres of forests, mostly Pinus radiata, equal to one-quarter of the exotic pine forests of New Zealand.

Another National Container Plant

National Container Corp. has established a new corrugated paper products converting plant, to serve the St. Louis area, at Illinois Avenue and Terminal Railroad, East St. Louis, Ill. William J. Gass, Jr., who has been associated with box industry for 23 years, as a designer, salesman and executive, is sales manager of the new unit.

The new plant, which is the thirteenth such operation for National Container, is equipped with completely modern facilities and has been designed to allow for expansion.



Turbines Boost Output At Northwest Paper Co.

With demand high for its quality line of printing papers, envelope papers and converting papers, the Northwest Paper Co., Cloquet, Minn. has sought constantly to increase the productivity of its equipment while maintaining its quality standards. The Cloquet mill is an integrated mill producing 275 net tons of printing paper a day. The mill neither buys nor sells pulp, producing 175 tons of alkaline pulp and 100 tons of sulphite pulp a day with its own facilities. The same quantity of finished paper comes off the four paper machines and is packed and shipped each day.

To achieve this rate of production, it was necessary to expand the output of the paper machines. Analysis of the problem by E. C. Gamble, Manager of the Mechanical Service Dept., showed that the No. 1 and No. 2 machines were limited by drying capacity. The No. 3 and No. 4 machines had reserve drying capacity and were limited only by speed. Mr. Gamble concluded that the easiest way to get an immediate production increase was to raise the speed of No. 3 and No. 4.

Installation of two Worthington steam turbines to drive the paper machines has increased production of the machines 12 to 13 percent, opened the way to much larger production gains in the future, and effected improvements in paper quality. Still another benefit has been reduction in such operating costs as superintendence and maintenance of power equipment.

The new turbines were installed between 6 a.m. Sunday and noon Monday with a loss of only four production hours.

The Worthington multi-stage turbines were integrated with the existing steam system which includes four water-tube boilers with continuous rating of 300,000 lb. of steam per hour, and two Westinghouse turbine-generators, one rated at 1500 kw. and the other at 2500 kw.

Hoberg Mills Gets Yeast Plant Approval

State approval has been granted to the Hoberg Paper Mills, Green Bay, Wis., for a switch in plans to build an evaporation or burning plant to the construction of a yeast extraction plant for the reduction of spent sulphite liquor pollution of the Fox River and Green Bay.

The approval was given by the State Committee on Water Pollution, which two years ago ordered Hoberg and other Valley paper mills to take steps to abate pollution of public waters.

Hoberg originally planned to build an evaporation or burning plant, submitted plans to the state agency for such a program, and had equipment and machinery on order. During the last month, however, firm officials changed their minds, after "intensely weighing" the merits of the alternative measures, the company told the state officers.

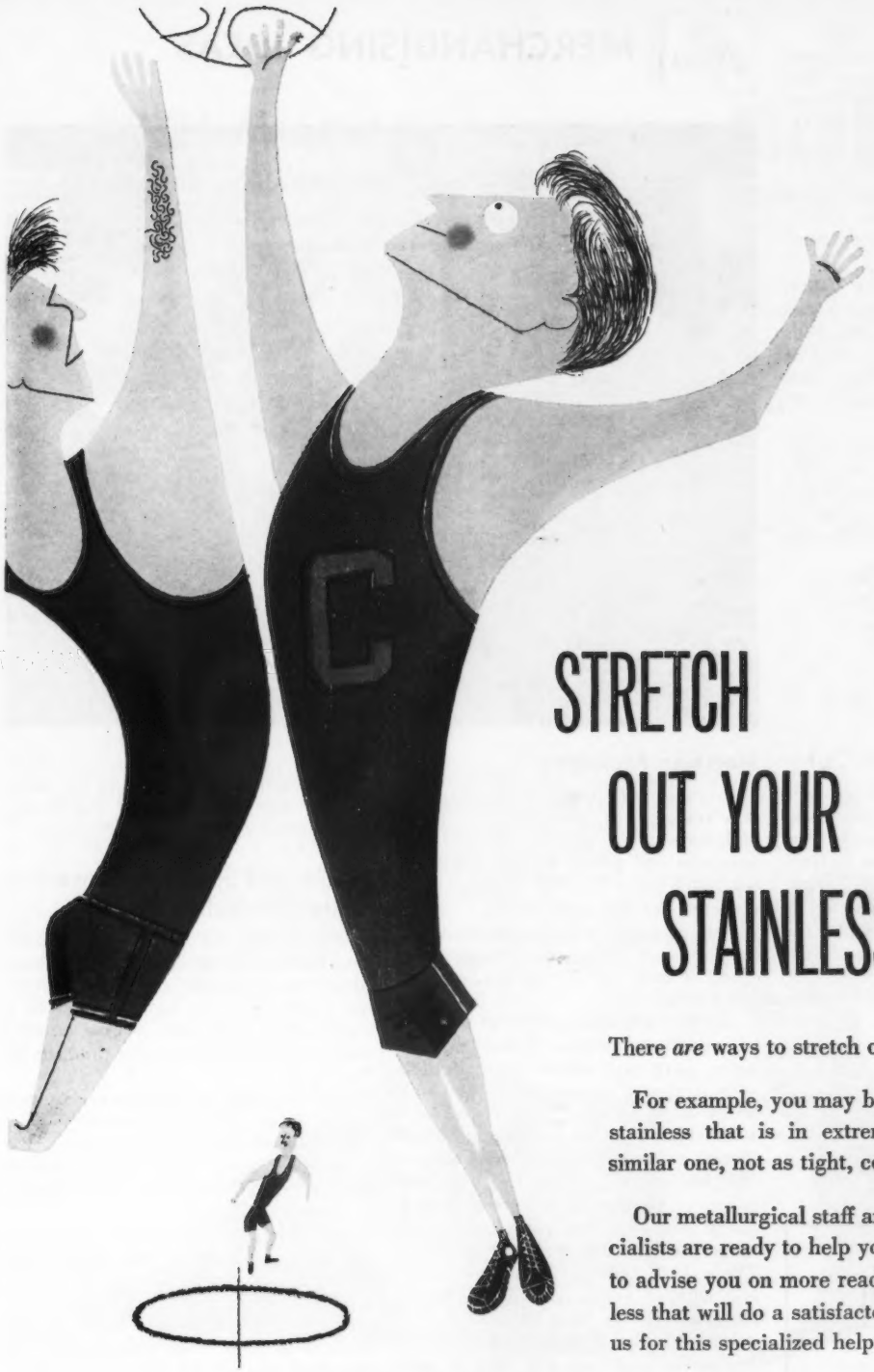
M. J. Auchter, vice-president of the company in charge of manufacturing, said that Hoberg's hoped to be able to let bids for the yeast plant late this year. The NPA in Washington has given the company assurance that it will grant clearance for the new equipment and materials needed, he said. The company will pay cancellation charges on the evaporation treatment equipment that has been on order.

SEPTEMBER NEWSPRINT REPORT

NEWSPRINT ASSOCIATION OF CANADA, MONTREAL

		SEPTEMBER			YEAR TO DATE		
I. PRODUCTION AND SHIPMENTS in short tons: 2,000 pounds		1952	1951	Percent Change	1952	1951	Percent Change
1. Canadian Production:	mo. and year to date	461,508	431,082	+ 7.1	4,257,448	4,116,785	+ 3.4
	per working day ...	18,460	17,962	+ 2.8	18,367	17,837	+ 3.0
	percent of capacity .	103.5	103.2		103.0	102.5	
2. Canadian Shipments:	to United States ...	397,749	368,676	+ 7.9	3,602,060	3,546,971	+ 1.6
	to Can. Consumers .	29,145	28,450	+ 2.4	268,497	265,344	+ 1.2
	to Other Markets ..	35,510	30,612	+16.0	347,682	241,311	+ 44.1
	total: all markets ..	462,404	427,738	+ 8.1	4,218,239	4,053,626	+ 4.1
3. U. S. Production:..	mo. and year to date	92,301	90,728	+ 1.7	873,219	836,799	+ 4.4
4. U. S. Shipments:...	to U. S. Consumers .	86,572	90,276	— 4.1	812,755	826,093	— 1.6
	to Other Markets ..	4,073	2,211	+84.2	58,726	10,515	+458.5
	total: all markets ...	90,645	92,487	— 2.0	871,481	836,608	+ 4.2
5. U. S. Imports from Europe:	*est.; see Table 8 .	*17,500	14,903	+17.4	137,351	151,975	— 9.6

		SEPTEMBER			YEAR TO DATE		
II. CONSUMPTION AND STOCKS in short tons: 2,000 pounds		1952	1951	Percent Change	1952	1951	Percent Change
6. U. S. Consumption:	estimated total	506,225	505,215	+ .2	4,428,875	4,390,906	+ .9
7. North American Stocks:	U. S. Consumers ..	839,098	727,385	+15.4	839,098	727,385	+ 15.4
	Canadian Mills	141,119	152,301	— 7.4	141,119	152,301	— 7.4
	U. S. Mills	9,306	8,432	+10.4	9,306	8,432	+ 10.4
	estimated total	989,523	888,118	+11.4	989,523	888,118	+ 11.4
8. A.N.P.A. Report: .. 525 Newspapers	Consumption	379,669	381,437	— .5	3,321,656	3,315,134	+ .2
	Stocks (tons)	659,787	526,584	+25.3	659,787	526,584	+ 25.3
	Stocks (days)	52	41		52	41	



STRETCH OUT YOUR STAINLESS, TOO

There *are* ways to stretch out your supply of stainless.

For example, you may be using a grade or finish of stainless that is in extreme demand when another similar one, not as tight, could do the job adequately.

Our metallurgical staff and stainless fabricating specialists are ready to help you look into this matter and to advise you on more readily-available types of stainless that will do a satisfactory job. Feel free to call on us for this specialized help.

CRUCIBLE first name in special purpose steels

52 years of Fine steelmaking

STAINLESS STEEL

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

REZISTAL STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

Fighting Paper Wanted

Invitation for bids have been issued by the New York Quartermaster Procurement Agency, 111 East 16th Street, New York 3, N. Y., on QM-30-280-53-346 covering Paper, Wrapping, Kraft, Non-Waterproofed, Non-Paraffined, Rolls, 5,060 rolls. Bids will be opened November 14, 1952 at 10 a.m. (EST) at the New York Office. This procurement is for the U. S. Navy.

- QM-30-280-53-347 covering Paper, Wrapping, Waxed, Self-Sealing, Bread Wrapping Machine, 16,359 rolls. Bids will be opened November 13, 1952 at 10:00 a.m. (EST) at the New York Office. This procurement is for the U. S. Army.
- QM-30-280-53-349, covering Paper, corrugated, flexible, single faced, rolls, 11,000 rolls. Bids will be opened November 17, 1952, at 2:00 p.m. (EST) at the New York office. This procurement is for the U. S. Navy.
- QM-30-280-53-355, covering Paper, stencil, duplicating machine, waxless, dry process, 710,500 quires. Bids will be opened November 18, 1952, at 11:00 a.m. (EST) at the New York office. This procurement is for the U. S. Army.

Lower Canadian Pulpwood Cut

It is estimated that pulpwood cut this year in the Province of Quebec, which accounts for a considerable proportion of the whole Canadian output, will be down about 15% to 25% from last year's record production of seven million cords. Though pulp mills are operating at capacity, they are unable to consume the record output of last year as well as the over 1,500,000 cords left over from the 1950 cut.

Central Plans Expansion

Central Paper Co., Muskegan, Mich., after an expenditure of $300,000 on deferred maintenance, is making plans for future expansion involving a several million dollar project.

A.P.W.

ONLIWON

INDUSTRIAL
TOWELS
TISSUE

MERCHANDISING IDEAS

Matching Packaging

A unique matching package program was revealed by The Gardner Board and Carton Co. and the Sorg Paper Co., who will jointly design, manufacture, and sell a "family" package—engineered for the retail trade.

The program will be made up of the kinds of packages a shopper gets when he buys a new suit, hat, coat, or other retail item.

Gardner will make and print all types of paperboard boxes of different designs. Sorg will match these designs with wrapping paper, notion, and millinery bags. So when a customer buys a new suit, he'll have it packaged in a special printed box made by Gardner. Merchandise that calls for wrapping paper, or packaging in notion or millinery bags, will be packaged in the same matched design made by Sorg. These bags will be made both with and without handles according to the customers' preference.

The "family" package will not only be jointly made—it will also be sold jointly through Gardner and Sorg sales organizations and appointed distributors.

Officials of the two firms say there has been a trend in the retail field towards matching boxes, wrapping paper and bags. Until the Gardner-Sorg development, retailers had to seek different firms to get this type of package.

The first packages will be presented to retail store buyers for the first of the new year. As time goes on, more designs will be added; while for large orders, distinctive designs will be developed for individual retail stores.

Angier and Specialty Converters Unite Distribution Facilities

Angier Corp. of Framingham, Mass., and Specialty Converters, Inc. of East Braintree, originally a division of Robert Gair Co., Inc., have announced a cooperative agreement to give broader national distribution to the products of both firms.

The pooling of manufacturing and distribution facilities improves the operation of both concerns. Their products serve every basic industry in the United States concerned with flexible packaging materials.

The Angier Corporation, originator of waterproof, creped-to-stretch and other specialty papers, recently introduced a chemically coated paper that gives off a vapor to stop rust. In contrast with these Angier products is the standard line of flat laminated papers made by Specialty Converters, Inc.

Finch, Pruyn Names Adv. Agency

Finch, Pruyn & Co., Inc., Glens Falls, N. Y., have appointed Hilton and Riggio, Inc. to handle its advertising and promotion, effective immediately. Harris Horton is account executive.

NOW! MILL-PROVED FOR PRODUCING LINER BOARD KRAFT!

CHEMI-PULPER®
continuous digester

The mill trials were made in a large kraft mill now using CHEMI-PULPER continuous digesters for producing corrugating board pulp from mixed hardwoods.

Based on a series of trial runs, the operating conditions for the CHEMI-PULPER continuous digester were determined and the operation was placed on a 24-hour basis.

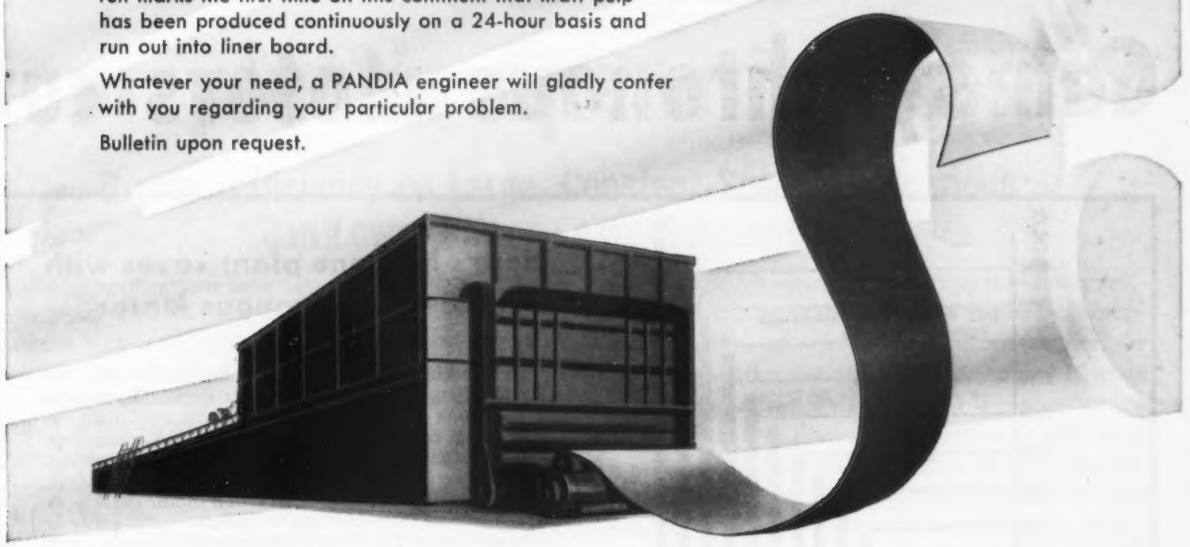
High yield kraft pulp in the 60-62% range was produced from a mixture of spruce and balsam woods. The pulp passed through hot stock refiners—over a vacuum washer—through the board machine disc refiners and onto the liner board machine. The liner board was made from 100% CHEMI-PULPER continuous digester kraft pulp at the usual mill operating speed and tested somewhat higher than the minimum requirements for .016 liner.

The CHEMI-PULPER continuous digester can produce kraft pulp continuously at a considerable *saving in steam and manpower* requirements, and at a *better uniformity* which is an inherent characteristic of a continuous process as compared to a batch operation.

Again, PANDIA INC. with the CHEMI-PULPER continuous digester is first. As a pioneer and developer of the only mill proven continuous pulping equipment, we believe that this commercial run marks the first time on this continent that kraft pulp has been produced continuously on a 24-hour basis and run out into liner board.

Whatever your need, a PANDIA engineer will gladly confer with you regarding your particular problem.

Bulletin upon request.



Manufactured and Sold in Canada by
THE ALEXANDER FLECK LIMITED, OTTAWA, CANADA.

PANDIA

PANDIA INC.

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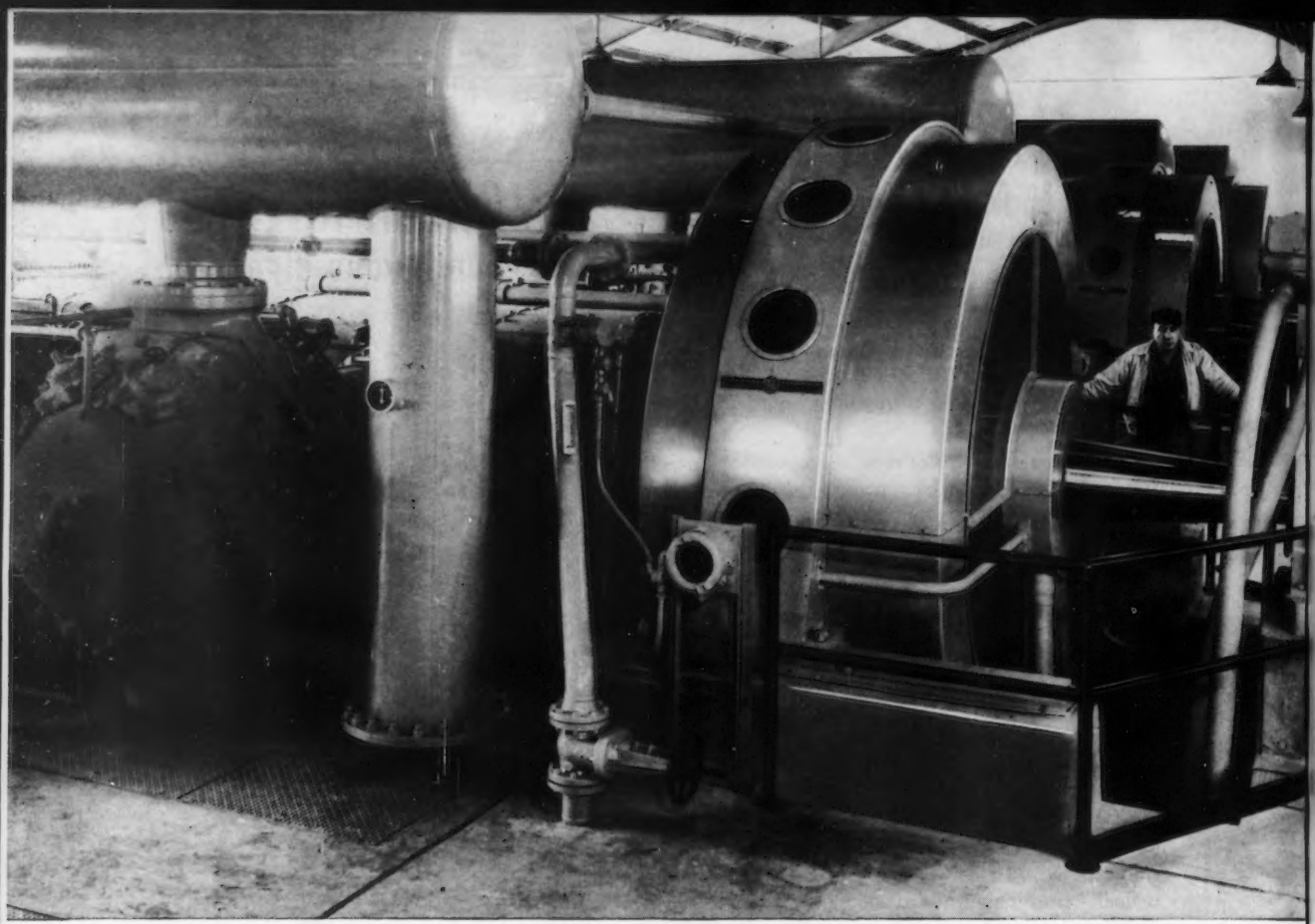
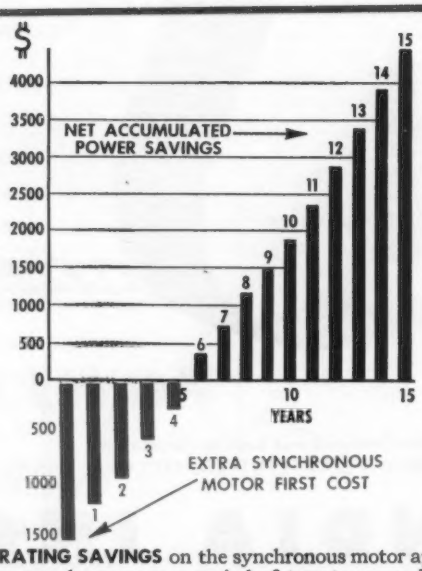


COMPRESSORS IN A GAS STORAGE STATION are driven by General Electric 3000 hp, 300 rpm synchronous motors.

Can synchronous motors cut y



OPERATING SAVINGS on the synchronous motor application described above are shown over a period of twenty years. Extra first cost will be amortized in five years; savings will continue for many more.

Here's how one plant saves with a G-E Synchronous Motor

The specifications for a new pump motor were 250 hp, 600 rpm, 2300 volts, 3 phase, 60 cycle. The price of a 1.0 Power Factor synchronous motor, including exciter and control, was higher than an equivalent squirrel-cage induction motor with control. However, the synchronous motor efficiency, including exciter loss, was 1.6% higher than the induction motor (93.0% vs 91.4%). Since the motor was to operate continuously at a power cost of 11 mils per kilowatt-hour, it was found that the power savings would repay the additional investment in only five years. The operating savings will continue throughout the life of the motor—10, 20, even 30 years.

Savings such as these make synchronous motors the most economical drive for many heavy-duty, continuous-service applications. And in many cases, synchronous motors are lowest in first cost, too.

GENERAL ELECTRIC 400 HP SYNCHRONOUS MOTORS are coupled to ten Jordans in a paper mill.

ut your plant's operating costs?

Greater Efficiency on Large, Constant-Speed Applications Can Lower Power Costs Substantially

On certain applications selection of General Electric synchronous motors can bring about substantial savings in plant operating costs. Synchronous motors usually have a higher full-load efficiency than any other type of motor, produce more work per dollar's worth of power consumed.

Furthermore, synchronous motors may be able to improve plant power factor—the ratio of total kilowatt load to total kva load. When these two fall out of balance, high system losses, high power bills, or increased maintenance costs commonly result. Using a ***unity power factor*** synchronous motor adds only to total kw load. And, a ***leading power factor*** synchronous motor will actually supply reactive kva's to your system, while operating at its normal rated output.

Before you select a drive for a large piece of equipment providing heavy and continuous service, be sure to investigate the economics of General Electric synchronous motors. Call in your G-E representative —he'll be glad to discuss your situation with you. Also, information on G-E synchronous motors and their application is available in the following bulletins: GEA-5332, "Low-Speed Synchronous Motors;" GEA-5426, "High-Speed Synchronous Motors;" GEA-5817, "Plant Power Factor Improved With G-E Synchronous Motors." Write to Section 770–27, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

The tough, flexible film formed by Methocel (Dow methylcellulose) has proved valuable as an inside sizing of fiber cartons and drums to assure a clean, lint-free surface. This is particularly important in the packaging of pharmaceuticals, foods and other products where contamination from lint must be avoided.

Methocel has also solved the problem of providing fiber drums that are easily parted from solidified products such as asphalt, rubber and waxes. The addition of Methocel to the coating formulation applied to the container board assures dependable, effective parting.

These and many other industry problems have been solved by Methocel as a specialty sizing, grease-resistant coating, adhesive and thickener. Consider Methocel in your operation for product and process improvement.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

Did you get your Experimental Sample?

The Dow Chemical Company
Department ME17A, Midland, Michigan

Wide viscosity range of Methocel available—please indicate use field _____

NAME _____ TITLE _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____

DOW

Super or Robot? Are You Ready?

H. J. Perry

It's coming whether you want it or not! The big question is are you prepared. Prepared for what.

We are talking about the change in distributive and merchandising methods demanded by the buying habits of our wives, who are our purchasing agents, demands that have sparked a "revolution in retailing."

The quick easy service required by them is making smart retailers, both large and small, change over from the customary clerk - behind - the - counter style to super market systems. They are demanding one stop shopping, where they can buy not only the food they want, but hardware, notions, and almost everything else by self-service.

Have you noticed food stores selling paint, cosmetics, garden supplies, work clothes. Of course you have. We have all laughed at the jokes about drug stores selling everything but drugs. Don't laugh, your wife wants it that way.

If you have read this far you maybe are wondering: what has all this to do with the paper business. Just this. As this trend continues, more and more items must be sold pre-packaged, and that means more bags, more boxes, more new types of all kinds of packages.

Two basic techniques are used in the super market system; an item must be on display for customer examination or it must be packaged so that the package surfaces do the selling, reinforced by advertising of course. If the buyer is satisfied and sold on-the-spot, she then picks up the pre-packaged item and moves on to the next buying point.

Did you ever see a pre-packaged pair of overalls. Neither have I. But one large chain store hunted the country over for such an item. No manufacturer had ever thought of it. Imagine the nice box orders if all overalls were packaged.

To give you some idea of the potential, we take you now to a panel discussion by five editors, each an authority in retail merchandising whose magazines are members of Associated Business Papers, an organization of the elite business papers serving every industry in the nation. Incidentally *Paper Trade Journal* is an ABP member.

The panel is reporting the merchandising trends to the Sales Executives Club in New York.

E. B. Weiss

Director of Merchandising, Grey Advertising Agency, and Contributing Editor, *Printers' Ink* comments on . . . . .

The Shopper-Retailer Revolution and Its Impact on Manufacturers

It is the *newcomers,* both in retailing and in manufacturing, who have shown the *greatest* willingness to conform promptly with this revolution in public buying.

The super markets are comparative newcomers in retailing. They have come closest to keeping up with the new shipping demands of the public. The department stores are old-timers, as retailing goes; they are just beginning to make feeble gesture in the direction of self-service and self-selection. And they are just beginning to consider *two* night openings a week, while super markets average *four* night openings a week. As for the drug chains, it is worth noting that these outlets could not marshall *50* self-service units at the beginning of 1950—and among the variety chains Woolworth and Kresge are just beginning to comprehend that their floor people are *attendants,* not salespeople, and belong *in the aisles*—not behind a counter.

As for established manufacturers, remember how the established manufacturers of drugs and cosmetics shuddered, only a few years ago, at the mere thought of selling their lines to super markets? Much the same happened with manufacturers of housewares. At the moment, much the same is happening with established manufacturers of soft goods.

Right now, the self-service and self-selection of non-foods in non-food outlets is becoming a dominant phase of

the shopper-retailer revolution. Yet most established non-food manufacturers who do not *pre-package* their line —an integral part of self-selection merchandising — insist that they just can't afford to do it. Simultaneously, newcomers in these very lines are prepacking their non-food lines — and somehow wangling out a profit!

The American shopper has gone through an amazing revolution in buying habits—a revolution based, incidentally, in part on the pre-sold brand and in part on new living habits.

But established manufacturers are just beginning to change their spots to conform with that shopping revolution. For example, there is still a vast opportunity for improvement in packages that will do a better selling job under conditions of self-service and self-selection retailing. There is a similar opportunity for manufacturers in connection with fixtures that will aid in the self-service and self-selection retailing of non-foods not only in food stores, but even more importantly in non-food stores. Some manufacturers have yet to revise the timing of their advertising schedules in order to conform with nocturnal shopping — and other manufacturers have yet to revise the scheduling of their advertising to conform with the geographical diversification of retailing and the remarkable development of the planned shopping centre.

In other words, it is wrong to call this a retail revolution—because what affects the retailer must affect the manufacturer and therefore this revolution is as much of a manufacturer revolution. Yet established manufacturers have tended to be backward in shaping the shopper-retailer revolution in ways that would aid these manufacturers to sell more, more profitably, under the new market conditions.

What is this retail revolution? I would chart its principal trends *very, very* quickly in this way:

1. The *decentralization* of retail trading areas—and the accompanying development of neighborhood, suburban and regional shopping centres.

2. *Nocturnal* retailing. Already, perhaps 25 percent of our total food volume is bought at night. The Robert Hall Chain probably does over 30 percent of its volume at night. Sears is actively committed to the promotion of a 24-hour, seven-day-a-week shopping service.

3. The *concentration* of retailing into a few hands. Three giant retailers do over 25 percent of our entire bedsheet volume. Some 200 retailers do over half of our hosiery volume; half of our cosmetic volume; half of our toy volume. About 20 giant retailers account for $1 out of $4 retail dollars in general merchandise.

4. The *store-controlled* brand has emerged as a strong, advertised, presold brand. The next great brand battle will be the battle between the manufacturers' advertised brands and the retailers' advertised brands.

5. The trend toward *one-stop* and *one-half* stop outlets by most of our major retailers. All large retailers are becoming department stores—of a new type, of course.

6. The *decline* in *floor selling.* Salespeople, today, are attendants—they do little courteous selling and even less creative selling.

7. The trend toward *self-service* and *self-selection*—not only of non-foods in food stores but of non-foods in non-food outlets. This is a great broad trend that affects practically all manufacturers.

8. The decline of Saturday as a retail day, the coming of a *5-day* week in retailing, the ultimate elimination of morning hours.

These eight points by no means comprise the entire shopper-retailer revolution. I haven't touched, for example, on the coming development of the vending machine. But I hope I have charted enough of the shopper-retailer revolution to make it clear that this is a living reality.

The *shopper* has *revolted.* But too many *manufacturers* have merely *evoluted.* It's high time the Full Speed Ahead signal was given.

Julien Elfenbein

Editorial Director, Home Furnishings Division, Haire Publishing Co.

Many of you represent the 27 consumer goods industries for which my organization publishes business magazines. As you know, we are not just trade news reporters. Yes, we tell what has happened, what is happening, and what the experts think is going to happen. We also try to find out what you will have to do after you cannot keep on doing what you are now doing.

Here are some of the things we tell our retail readers

1. Make up your mind whether you want to be a specialist like a linen store on Fifth Avenue, called Mosse, or a mass retailer like Macy.

2. If you are a mass retailer you must not only get lots of traffic but you must exploit the traffic.

3. Large mass retailers are putting up branches in suburban shopping centers. Unfortunately, they simply transfer an antiquated retail operation from Main Street to where the traffic is. The only thing new they offer is a car parking convenience.

4. Other mass retailers are exploiting this traffic by reclassifying goods on display to match the functional operations of the consumer and her household rather than to suit the convenience of the store owner. Study the new Fedway chain.

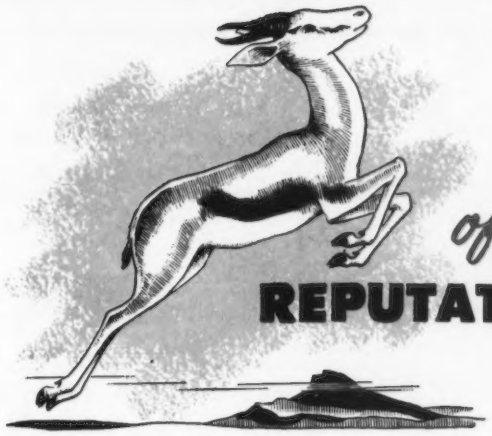
5. Some mass retailers exploit their traffic by widening the aisles, improving the lighting, using the psychology of pastel wall colors, showing only one item in each category, keying each piece to a counter-bin or to a stock pile behind the scenes. Visit the new housewares department of Bloomingdale's.

6. Some mass retailers are stocking more presold brands. "Presold" doesn't necessarily mean the manufacturer has to spend a lot of money for consumer magazine, radio and TV advertising. The ideas and materials he creates to move his brand at the community level: sales training, window and interior display, direct mail and newspaper advertising are also consumer advertising. Incidentally, it does not harm to presell retailers with more trade paper advertising.

7. Some mass retailers are cutting out expensive services and non-profit departments.

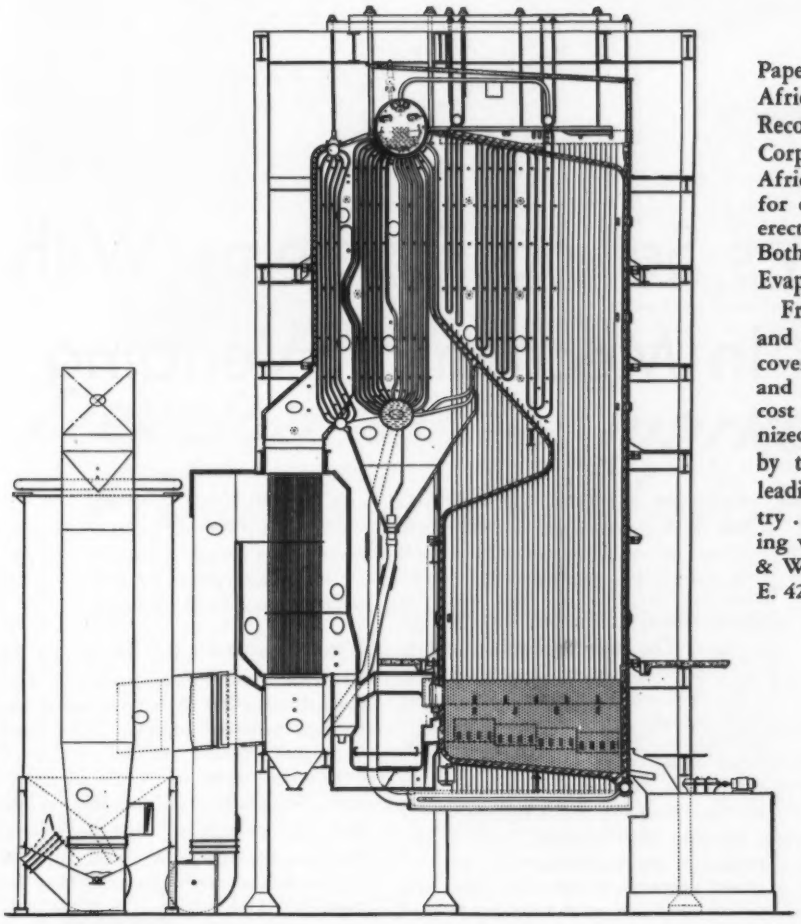
8. Some mass retailers show a change of face to their traffic by rotating the items in the department. They maintain complete assortments of all staples.

9. Some mass retailers encourage self-selection by taking the sales clerks out from behind the counters and putting them in the aisles as hostesses, attendants or stock clerks like Joseph Horne's hardware, Pittsburgh; Wieboldt's Toyteria, Chicago; Macy's Fancy Pantry and Gimbel's record de-



The SPRINGBOK, national emblem of South Africa.

# of B&W Recovery Units REPUTATION GOES A LONG WAY ...to South Africa



200-Ton B&W Recovery Unit with B&W Cyclone Evaporator for Outdoor Installation in Zululand.

Paper Industries, Ltd. of Springs, South Africa, have been operating a 75-ton B&W Recovery Unit for several years. Union Corporation, Ltd. of Zululand, South Africa, have ordered a 200-ton B&W Unit for outdoor installation; it is now being erected. This represents a repeat order. Both units will have B&W Cyclone Evaporators.

From Oregon to Florida, to Zululand and Finland, the reputation of B&W Recovery Units for highly efficient chemical and heat recovery, reliability, and low-cost operation and maintenance, is recognized. It is a reputation firmly established by the performance of B&W Units in leading mills throughout the paper industry . . . a reputation that is rapidly reaching world-wide proportions. The Babcock & Wilcox Company, Boiler Division, 161 E. 42nd Street, New York 17, N. Y.

BABCOCK & WILCOX

P-771

partment, N. Y.; and Wanamaker's housewares, Philadelphia. They borrow supermarket techniques: informative labels and pictures that describe content, function, sizes, colors, prizes and instructions, like J. L. Hudson's linen department, Detroit; Hearn's Department Store, N. Y., and Hecht's Suburban Housewares.

10. Some mass retailers go self-service like Ken Dennstedt Appliance Store, San Diego, where the customer brings in her laundry and demonstrates an automatic washer to herself; like Gorman Household Center, Detroit, where furniture is self-service.

11. As for nocturnal selling our electrical appliance dealers have told us for years that is the best time to move big ticket items.

Here are some things we tell our manufacturer-readers

You must make up your mind whether or not you are a mass producer and whether your present channels of distribution can keep up with your capacity to produce.

Here is our checklist for non-food producers who think they are ready for supermarkets:

1. Is your product *self-explanatory* or does it need a sales person to demonstrate?

2. Is it *one piece* or does it need a mechanic to assemble it?

3. Does it have a common usage like a potato peeler or is it specialized like a cross-cut saw?

4. Can it be *pre-packaged* as a point-of-sale aid?

5. Is it *pre-sold?*

6. Is it *large enough* to prevent pilferage and small enough to get into a shopping cart?

7. Will you be able to give a week's delivery instead of 4 to 6 weeks?

8. Can you price it *competitively?*

9. Is it a *staple?*

10. Is it a *star performer* right now in Macy's, Marshall Fields, J. C. Penney or Woolworth's?

11. Are you prepared to hire experienced food people to contact this mass outlet, and make marketing plans? If you think your sales manager can take it on in his spare time, stay away from it.

G. R. Schreiber

Editor, *Vend Magazine* tells how to

Solve Today's Selling Problems With New Ideas In Mechanical Vending

Do you have a product which people buy on impulse for immediate use or consumption?

Or perhaps a product which might sell in such outlets as factories, theater lobbies, and transportation systems, but can't be sold there because over-the-counter retailing of your product in such outlets is economically impractical?

If so, you should be selling them through vending machines.

But don't stick to the idea that vending's only use is impulse or on-premise consumption sales. In hundreds of cities across the country, venders are providing ice and packaged fuel—available for take-home use on a 24-hour basis.

In Boston, Filene's department store has vending machines in International airport and the Greyhound bus terminal which are selling women's hosiery, costume jewelry and dozens of other products.

Gasoline is already being sold 24-hours a day by automatic vending machines.

The day is near when big and little retailers can stay open around the clock with automatic merchandising equipment—just as retailers have done in the Scandinavian nations for the past 50 years. The vending machine industry's engineers are rapidly solving most of the mechanical problems, and those which remain to be solved present no tremendous obstacles. They will be solved when the nation's sales executives begin working with automatic merchandising specialists to experiment in vending new products, both of the brand and non-brand variety.

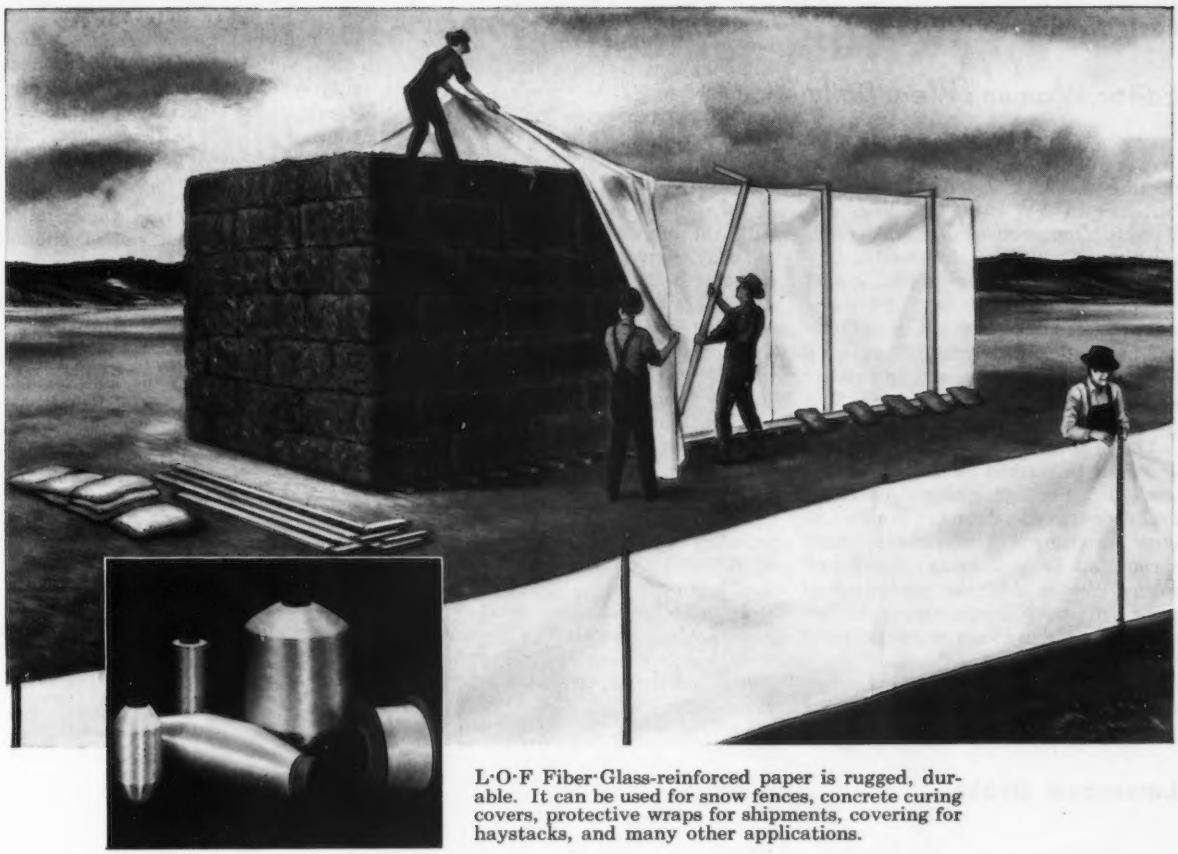
Can grocery stores sell milk and frozen foods 24 hours a day and 7 days a week through vending machines? The vending machine manufacturer can supply the machine. Will one of you gamble with him on the experiment?

Can neighborhood drug stores stay open all night with offerings of a hundred or so top demand items? The vending machine industry can make the machine. Will one of you gamble with him on the experiment?

Why shouldn't the department store buyer exit through a battery of vending machines reminding him of a 100 items he may want or need?

There are no rules of thumb, no formulas to determine in advance what products will sell through venders and in what types of outlets. This much we know: Where around-the-clock service is likely to result in added sales, venders may do the job. Where "convenience" items must be sold at little or no profit, venders could be used to free the sales person's time for more profitable sales. "Convenience" items might well become profit items to dealers, just as have cigarettes, in several hundred thousand outlets where they formerly cost dealers money out of pocket, and were considered a costly nuisance to stock and sell.

Sales costs being what they are, economics favor the prediction that machines will take over more and more the job of selling packaged products.



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Earl W. Elhart

Editor, *Women's Wear Daily*

A revolution in retailing is going on because we have a different type of customer to deal with. She lives differently from her mother, or grandmother. She dresses differently. She thinks differently. She is less formal and more casual in her way of life and this attitude affects everything she buys and her method of buying. Blame it on the war, on television, the automobile or what have you, but the old Mrs. Jones doesn't live here any more.

The new Mrs. Jones is now the boss and must be catered to. In many cases she didn't like and couldn't afford an adequate apartment for her family. So huge housing developments have sprung up in a thousand cities and towns. She couldn't be persuaded to come into town frequently to do her shopping, so downtown stores perforce had to follow her.

Compile a list of the 74 major downtown department and specialty stores in just these four cities. New York, Los Angeles, Boston and Chicago. You will find that they are now operating a total of 210 branches. These branches comprise a huge investment. They were built to hold, or recapture customers who won't come downtown frequently to shop any more. But most of them made one mistake, they didn't build the branches big enough.

Today's customer wants speed of shopping and ease of shopping. That's why there's a trend to self-service. Merchandise more and more is being exposed where it can be seen and touched. In the first unit of the new Fedway chain, opened last week in Wichita Falls, Texas, the exposure of merchandise is approximately twice that of the average department store. That means more self-reflection.

Pure self-service has made slow progress in the women's apparel field. S. Klein, Union Square, showed the way beginning in 1907, but there have been only a few other stores which have made a success of this method. Most women's outer apparel apparently still needs the service of a competent salesperson.

But department stores are more and more experimenting with self-selection, by and with the aid of manufacturers. In hosiery, for instance, merchandise is now being specially packaged by manufacturers for self-selection. Store fixtures have been designed and labeling improved.

In the foundation field, the trend towards packaging and self-selection is growing. The trend applies particularly to lightweight all-elastic girdles. A half dozen are now packaging in this way, special fixtures have been developed. There is some progress towards special packaging in the fields of lingerie, sportswear, infants' wear and costume jewelry. In toilet goods, a recent survey showed one third of 120 stores were using self-service to a limited extent. Even a millinery, the hat bar has become largely self-service, sans salesgirl to fetch and try-on.

Throughout the department and specialty store field the trend is definitely towards self-selection, egged on by the need to keep expenses down. What stores need is more packaging, special fixtures and better labeling.

Lawrence Drake

Editor, *Grocery Edition, Chain Store Age*

I think that we are all agreed that there *has* been revolution in retailing. But as with all revolutions the first reports from the scene have been confusing and conflicting—and frequently colored by just a little self interest.

I would like to report for you this revolution as I see it from the super market field—the field of the big chain grocery stores — those "newcomers" that you have been hearing about. Last year these stores averaged more than $9,000 per week; currently they are running at $10,000. But when you multiply that by 52 weeks of the year you see that *annual* average is over a half million and some stores go up to 10 million. The total sales is around $14,500 million for 28,000 stores.

Not long ago a manufacturer told me that the food chain stores weren't doing much business in his line—the head of a large chain had told him that housewares accounted for only .3 percent of sales. What the manufacturer failed to realize was that each .1 percent amounts to $1,500,000. A floor of the Empire State building is only about 1 percent of the total space but you can put a mighty big office on one floor of that building.

Health and beauty aids are less than 2 percent of food chain sales but that was more than $200 million worth of cosmetics and drugs in food chain stores last year.

Now just a few words about what this revolution is *not*, from the standpoint of a chain grocer. Forget about decentralization. We've always been decentralized. Now other types of retailing are joining us in the suburbs and we're glad to welcome them. Forget about store controlled brands. We're putting no more emphasis on them that we did 20 years ago. Let *Us* worry about which day of the week we sell your products. Right now, let's you and I concentrate on concentration, for that's what food chain stores have—concentration of buying traffic.

In one business block in Cincinnati I found 79c women's nylons in 5 different types of stores in one block—department, variety drug, ladies ready to wear and (of all places) in a hosiery shop. Yet the chain groceries were also selling nylons at 79c and doing very nicely, thank you. For women come to the grocery more often than they visit any other type of retail outlet—2½ times per week. Please don't ask me what they do on that half visit. But the buying agent for most American families will appear in one or another of the food chain stores this week. She's coming to buy food and we're going to keep on selling her food, but we're going to try to sell her other things as well. Let's take a look at one chain.

Colonial Stores, with headquarters in Atlanta, Georgia, has 4 branches and 400 stores. This may not be a typical chain but it is about as close as we can get to one. About half of the food chain business is done by larger chains and about half by smaller chains. It is neither the most radical or most conservative in its merchandising policies.

But when I visited Colonial 4 weeks ago, I found the general merchandiser worried. His worry? He couldn't find anyone who packaged dungarees for self-service sale. Apparently the dungaree hadn't heard about is "newcomers."

We walked into the sales meeting room where all of the merchandisers had been called in to plan their winter program. It was like walking into a nursery. Toys lined the walls, children's books covered the tables. There were space men, disintegrators and other things that adults wouldn't recognize but which children seem to know all about. But this was *planning* and

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we went to their largest store to see what was actually *happening*.

The manager was easy to find. He was up front keeping an eye on the big new soft goods merchandising fixture that he was testing. Women's hosiery, men's sox, children's clothing, work gloves; enough to fill 32 feet of 5 deck shelving. And there were those dungarees in a mess because they had not been packaged properly. An off brand of men's white shirts because the right type of package was not available in a national brand. That's your revolution in retailing.

And what do the grocers want from you? First they want a product in a package for self service sale. Then they want discounts in accordance with the quantities they buy. How many of you are still offering the food chains the syndicate discount when they buy well above the jobber quantity level? Contrary to the general opinion they don't want much help in learning how to sell your product. They are pretty good merchants now and they usually move into a merchandising vacuum where some other type of outlet isn't doing a very good job. Let me give you an example.

Some years ago in Terre Haute, Ind., a local chain was selling ice cream at 25c a quart. Now others retailers had 25c ice cream but they hid it. They pushed 60c ice cream even though their customers wanted the 25c variety. So they called a meeting and invited our grocer. One after another they told how much money they lost on 25c ice cream while he sat in silence.

Finally they called for his opinion. Now this grocer had a 55 percent impairment in the hearing of one ear—that was his buying ear. He also had a 15 percent impairment in the other ear—so as he explained he might not have heard them correctly but he *thought* that they said that they were losing money on 25c ice cream. Now he was *making* money on 25c ice cream. Why didn't they just send their 25c ice cream customers to him and everyone would be happy?

In closing I would like to say to you that if any of you have a 25c ice cream or any item that would fit in a basket carrier and carry a markup above our all too low average, and if your present retail outlets are just waiting for someone to buy your product at the same time they are trying to sell a competitive item—will if you have such an item, come up and see us sometime.

It all adds up to more markets for packaging materials. Will it be paper and paperboard? Ask yourself if you are ready for the retailing revolution. Is your sales force ready? Are your technical men ready?

As Paper Trade Journal editors see it, this trend could mean the biggest boost in paper consumption we have ever known.

L. L. Bishop

Outlines Southlands problems in making

Newsprint From Southern Pine*

I propose to outline briefly Southland Paper Mills' forest land ownership and management policy and program.

Even before the construction of the mill was begun, Southland was carrying forward an active forest land acquisition program. A considerable portion of the initial stock subscription was in the form of forest land, much of which had been recently cut over and a portion of the rest subject to limited cutting rights. As of the day the mill went into operation, January 17, 1940, Southland's land ownership totaled 108,000 acres. An active land purchase policy has been followed since, with the result that on December 1, 1951, Southland's holding totaled 150,000 acres. It is expected that it will be possible to currently add to this total—perhaps to double it during the next number of years.

From the start, Southland's forest holdings have been afforded excellent protection and conservation management. The principal that guides this management is that each acre shall be given the treatment necessary to bring it into full forest production at the earliest practicable date. Company lands are held as a pulpwood reserve and cut only when the stands need treatment so that they will produce the greatest amount of high quality material in the shortest possible length of time—or when cutting on them may be necessary to maintain continuous operation of the mill.

Southland's management policy aims definitely at the growing of large quantities of high grade sawlogs, poles and piling. Why does Southland set out to grow other than pulpwood? Because it's good business. In the main, Southland raw material will come from lands other than their own. Not only is it more profitable to grow large size materail, but the availability of such material will from time to time make it possible to trade with lumber operators for pulpwood material that might not otherwise be available. And it is good public relations to use company land in such a way as to bring about the greatest sum-total of local wellbeing. Sawlog size material requires more labor in its processing. When sawlog size timber is purchased in connection with pulpwood stumpage, the sawlogs are delivered to a nearby sawmill for manufacture into lumber.

Location of Southland Paper Mills near the geographical center of the Texas National Forests was a great day for forestry, as it brought a demand for smal size material and made intensive forestry profitable. From the first, an important fraction of Southland's raw material has come from the Texas National Forests in the form of thinnings and sawlog operation salvage.

Although pulpwood produced from tops and cull trees is not nearly as desirable as stem wood, as a conservation measure it is the policy of Southland to accept all such materials. As much as 10 percent of Southland's pulpwood requirements is in the form of salvage material.

Just now with the hope of reducing the drain on pine stands, Southland

NOVEMBER 4, 1952

. . . . . will mark a crucial turning point in American history. Never before has this nation been in greater need of the votes of thinking, intelligent people. Therefore, nothing—absolutely nothing—is more important than casting *your* ballot on November 4.

is studying the use of sawmill waste and hardwood pulp as raw material for newsprint.

Since 1940, Southland has planted 3,400 acres and has carried out timber stand improvement on 10,500 acres. Control of worthless hardwoods is one of the South's most serious forestry problems and is the principal element of company TSI treatment. All Southland lands are covered by the Texas Forest Service extra-protection program. Under this plan, private forest land owners pay a fixed charge for more intensive fire protection. Company lands are further safeguarded by a company protection-organization consisting of fire Jeep equipped with two-way radio and all woods crews are on call for fire duty.

Although practically all of Southland pulpwood is produced by private contractors, the company maintains a small wood production force as a safeguard. This force can be quickly expanded if the need occurs, and as quickly reduced when need no longer exists.

Southland has developed a unique pulpwood production process. All company operation material is brought to the mill in pole form up to 24′ in length. In the mill wood yard a crane equipped with wire rope slings picks the poles off the truck—one trip to the truck load of approximately four cords—carries them to the moving table of a custom built slasher where multiple circular saws cut them into 4-foot sticks. They fall off the table into the conveyor that carries them to large debarking drums. Southland's pulpwood production process is so organized that at no point is any material moved by hand.

Southland's forestry department consists of three technical foresters, one licensed land surveyor and seven practical men used on various jobs.

Foresters mark company timber for pulpwood thinning. Their services are made available to forest landowners who are willing to follow the pulpwood conservation cutting practices endorsed by the Southern Pulpwood Conservation Association. Southland's forestry department is in no way responsible for pulpwood procurement.

All Southland timberland is being rapidly brought into good growing condition. It is estimated that by 1960 company land will be producing at an average rate of at least ¾ cds. per acre per year, which would total about one-half of present mill requirements.

By 1955 it is expected that all company lands in need of reforestation will have been planted and by 1960 all acres require TSI will have been afforded initial treatment.

Southland is active in the public relations field. Company foresters are freely available to small woodlot owners for management assistance and advice. Pine seedlings are furnished free for planting on farm woodlots. Southland and the Angelina County Lumber Company sponsor the Fulton Lewis, Jr. radio program. All commercial spots are used to urge the practice of good forestry. Planting and fire control are stressed. In Texas, forestry and Southland Paper Mills march together.

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* Presented at a meeting of the Division of Forest Products, Society of American Foresters, Biloxi, Miss.

NEWS OF ASSOCIATIONS

TAPPI Engineers Meet in Chicago

The Seventh Engineering Conference of the Technical Assn. of the Pulp and Paper Industry was officially opened by the general chairman, C. J. Sibler, at 9:00 a.m., Monday, October 13, at the Morrison Hotel, Chicago. During the first day of the conference approximately 400 members and interested visitors registered, by the final day, October 16, registrations had risen to about 475.

TAPPI officials and Engineering Division chairman drew deserved praise for smooth, punctual management of the technical sessions, which were well attended. Large attendance also insured the success of the social events of the conference. A cocktail and dinner party was given Tuesday night under the sponsorship of Allied Industries. W. C. (Tex) Reynolds, columnist on *Racine Journal Times,* was the featured speaker. He spoke with much humor and some seriousness on "What Do We Want in America?"

Wednesday noon the members attended an official Engineering Division luncheon. Following the meal, Chairman Sibler introduced TAPPI President K. P. Geohegan and Vice-President G. H. Pringle. G. W. E. Nicholson then rose and presented a wristwatch to J. W. (Bumps) Hemphill of Johns-Manville Sales Corp. in recognition of his faithful service in the organization and continuance of the Engineering Division. The watch was inscribed "From friends in Tappi Engineering." The luncheon program concluded with a talk by H. J. Miller, Jr., Assistant Director of Industrial Relations, Mead Corp., Chillicothe, Ohio. Mr. Miller's title was "People Have a Place in Your Planning." He emphasized the necessity for close and early liaison between engineers and personnel management during the development of new projects. Engineering efficiency is largely dependent on the quality of machine operators, and engineers must recognize this factor more fully, he said.

The technical meetings began Monday morning with the Mill Maintenance and Materials Session under Chairman H. F. Parker. Two papers were presented, as abstracted below:

Care and Maintenance of Rubber Covered Rolls in the Pulp and Paper Industry—E. L. Lockman, United States Rubber Co.

The fact that the subject of the care and maintenance of rubber covered rolls does not have the glamor or the attention attracting appeal that discussions of new products or new processes possess, does not in any way diminish its importance, as we are dealing here with the problem of obtaining the maximum operating performance from items which in themselves, while expensive, are also vital to the continued and efficient operation of machines representing large investments.

The rules which are presented, while simple and based on common knowledge known to us all, should be constantly brought to the attention of all concerned. They may also be incorporated in any training program for new employes or refresher talks or discussions with old employes if such meetings are part of a mill's maintenance or training program.

The Engineer's Approach to Accident Prevention—George W. Harper, University of Illinois

While there has been much progress in accident prevention in industry in this country, there is still much to be done. The accident rate in the pulp

and paper industry has decreased since 1944 but is still above the average for all industry. Smaller mills have a higher rate than larger mills where organized safety programs are in effect.

If additional gains are to be made it is the author's conviction that they will come through the engineering approach. For many years management and employes have heard that 80 percent of all injuries were caused by human failure and 20 percent were caused by physical hazards. This fallacy was attacked, and cases were given showing that the hazard factor is often overlooked. It was pointed out that usually both factors are present and that the basic attack must be on hazard elimination through engineering applications.

The engineering approach to accident prevention presents a challenge to every member of TAPPI. Those in large plants to increase their accident prevention work and cooperate with their safety departments. Those members in smaller mills have a greater opportunity in that they can initiate a sound safety program based on engineering principles.

In conclusion, we need more engineers in safety, but most of all we need more safety in engineering.

Chairman A. P. Schnyder led the *Material Handling* Session at which the following paper was given:

The Preparation, Handling, and Transportation of Pulpwood East of the Rockies—J. A. Holekamp, American Pulpwood Assn.

This paper covers a generalized picture of the material handling techniques currently in use by the pulpwood industry east of the Rocky Mountains. The cutting, skidding, truck loading, truck unloading, and long distance hauling phases of the production of pulpwood are each presented with photographs and a discourse of the equipment and methods employed by the various pulpwood producers in the South, Lake States, and Northeast regions.

Following the morning sessions, committee members for Steam and Power, Drying and Ventilating, Engineering Research and Machine Design, and Mill Maintenance and Materials met at their respective business luncheons.

The afternoon program began with the *Drying and Ventilating* Session under Chairman M. L. Barker. Two papers were presented:

An Evaluation of Drying Concepts—A. J. Cirrito, Lukins Steel Co.

Numerous theories and some experimental data have been published on the factors which influence the drying of paper. Yet, progress in drying is still considered to lag behind advancement at the wet end. Higher speeds and the desire for improved sheet quality require more thorough considerations than the mere increase of steam pressure or the addition of driers.

The major factors in paper drying are discussed to show how they relate to the fundamental problem. They are not to be treated independently. Constructive criticism is offered for some widely accepted hypotheses. Analogous heat and mass transfer data in fields other than paper drying are examined. New concepts for more efficient use of the mechanism of drying are presented.

While some of the factors may be evaluated in the laboratory or pilot plant machine, many are peculiar to individual papers and speeds. These must be solved in the mill with the understanding cooperation of the papermaker. Not only should a broad analytical viewpoint be encouraged, but advanced techniques for field investigations must be developed.

Follow the Rules for Proper Steam Blast Coil Installation and Avoid Costly Trouble—Richard G. Lubinsky, The Trane Co.

Most troubles encountered with steam coils on industrial applications can be traced back to improper installation. In just about every instance, the installation violates long established rules—rules that have been formulated only after unsatisfactory field experience.

There are two all important general rules that must be followed if satisfactory operation is to be expected:

1. Air must be thoroughly vented from heat transfer equipment.
2. Condensate must drain freely into return lines.

Any system on which these two things are not accomplished will be troublesome because the capacity of the transfer equipment will be greatly reduced and early failures may be expected because of:

1. Corrosion.
2. Rupture due to a difference in expansion of tubes.
3. Breakage due to excessive pressures from water hammer.
4. Rupture due to freezing.

Common errors in installation which result in the previously mentioned difficulties are:

1. Improper pitch of the coil and piping.
2. Improper trapping or the use of traps that are not sufficiently large to handle requirements.
3. Use of one trap on a number of coils arranged for series air flow.
4. Selection of the wrong type of heating coil.
5. No provision for expansion of piping and coil tubes.
6. Use of the wrong combination of controls, traps and piping system.

Many operating engineers do not realize the seriousness of these errors only because they have not given thorough consideration to fundamentals. A detailed study of what happens in the system when each of the errors is encountered will readily explain why they must be avoided.

It may cost slightly more to make a carefully engineered installation following all the rules of good installation practice but it will prove economical in the long run. The cost of making repairs and of lost production during shutdowns can be tremendous.

T. W. Ernst of the Trane Co. substituted for Mr. Lubinsky in presenting this paper.

Following the formal afternoon session, the committees of the day's sessions adjourned to separate discussion meetings to which all interested registrants were invited.

Materials Handling discussed "Harvesting and Handling of Smaller Sizes of Pulpwood from the Forest to the Wood Yard." Discussion leader was W. A. McKenzie of Simpson Logging Co., Shelton, Wash. *Mill Maintenance and Materials* discussed "Tool Room vs. the Store Room for Maintenance Tools" under leadership of R. Q. Conner, Crossett Paper Mills, Crossett, Ark. *Drying and Ventilating* discussed the session papers.

Tuesday meetings began at 9:00 a.m. with the *Steam and Power* Session under Chairman H. P. Arnold. The following papers were well received:

Hot Lime Zeolite Treatment and Demineralization of Boiler Feed Make-up—J. D. Yoder, The Permutit Co.

Paper mills, as well as other industrial plants requiring process steam and considerable power, can manufacture their power as a by-product of process steam at a very low cost. This usually requires high pressure boilers which demand first class boiler feed water treatment. During recent years methods of boiler treatment have greatly improved and are available for the most exacting needs.

This paper will discuss two modern

types of boiler feed water treatment that are well suited to the paper industry. One of these is a two stage hot lime zeolite treatment and the other is demineralization.

Each of these types of boiler treatment will be briefly described. The particular advantage of each type of treatment as well as comparative study of treatment costs and costs of chemicals will be discussed.

Packaged Steam Generators in the Paper Industry—F. X. Gilg, The Babcock & Wilcox Co.

A "packaged steam generator" is a standardized, shop-assembled boiler, equipped and shipped complete with fuel-burning equipment, mechanical draft equipment, automatic combustion controls with fuel and low-water cut-outs, and other accessories.

There are "fire-tube" types and "water-tube" types. This paper describes a water-tube type and shows that it really is an extension of the integral-furnace series, in which boiler and water-cooled furnace are designed as an integral unit, with over-all dimensions of length, width and height limited to meet common-carrier (rail, truck, water) specifications on weight and clearances.

For sizes to generate up to 28,000 lb. of steam per hr. and moderate pressures to 250 p.s.i., packaged steam generators are being used more and more in the paper industry because low fuel costs, low maintenance and operating costs, compactness, portability, simplicity, reliability, and safety in operation are necessities in this progressive industry.

Typical examples with pictures of modern installations in paper mills will be described with their salient features, operating data, and fuel costs. Automatic combustion control systems will be described to show the emphasis given to safety and simplicity in operation.

The *Mill Design and Economic Aspects* Session was opened by Pat Forni of the Mutual Security Administration. He was substituting for regular Chairman Roland A. Packard, who is in Formosa. The following paper was the feature of the session:

Government and the Pulp and Paper Industry in the United States—Allan Hyer, Bagley & Sewell Co.

Presentation of the above subject will indicate the reasoning which led to the creation of the National Production Authority for the control of materials, and for the planned expansion of industry during the time of defense build-up such as now exists. It will show the necessity of combining the operations of industry and Government to accomplish those objectives, particularly as they relate to the pulp and paper industry, and to meet any requirement that might occur in the future during an emergency period. There will be explained the manner in which the original program was designed and its application to the pulp, paper, and board sector, the incentives offered by Government to promote and encourage expansion on the part of private industry to meet this program, and the important part played by individuals from private industry in the organization and implementation of this program. Details concerning the actual operation of the Pulp and Paper Division in NPA will be given. As a final word, the present status of the program will be given and what industry can expect as a result of this Government control in the future.

Tuesday business luncheons were scheduled for the *Materials Handing, Mill Design and Economic Aspects, Hydraulics, Electrical Engineering,* and *Chemical Engineering* committees.

Chairman J. R. Lientz led the afternoon *Chemical Engineering* Session with the following program:

H. P. Teeple of International Nickel Co. reported on the following analysis:

Corrosion of Alkaline Pulping Digester—Analysis of Corrosion Questionnaires—R. S. Peoples and G. L. Ericson, Battelle Memorial Institute.

This report contains the results of a study of information obtained from replies to a questionnaire sent to 63 pulp mills in regard to corrosion problems in the industry. The information revealed that corrosion has been significantly greater in digesters installed during the past 10 yr. For example, of the digesters in operation during this period, 24 percent showed corrosion rates of over 100 mils per yr., while essentially 100 percent of those in operation prior to this time showed rates of less than 50 mils per yr. The data submitted, though thoroughly screened, were not adequate to establish whether the observed trend was the result of (1) changes in operational and processing procedures, (2) type and quality of the steel, or (3) as yet unidentified variables. To determine the reasons for this trend, it would be necessary to: (1) Obtain more precise and detailed information from either all the mills or selected mills in the industry with respect to processing procedures and data. (2) Obtain more comprehensive and accurate corrosion information in regard to rates, type, and location of attack. (3) Obtain a more complete chemical analysis of metal samples from digesters undergoing corrosion examination. (4) Make a complete microscopic examination of representative metal samples, both from digesters giving long life and from those showing high rates of attack. (5) Secure more comprehensive data with respect to metal processing and fabrication on individual digesters.

This report was followed by:

Digester Corrosion Measurement—Nicholas Shoumatoff, West Virginia Pulp & Paper Co.

This paper presents the results of a study of corrosion in No. 4 digester at the Luke, Md., mill of the West Virginia Pulp & Paper Co., based on three sets of semi-annual readings with the Audigage thickness tester. The emphases of the present paper is on the procedure of analyzing the inspection results, rather than attempting to generalize from the specific findings. To determine and evaluate the magnitude and variations of corrosion indicated by the readings, the records were analyzed statistically by the analysis of variance and linear regression procedures.

It was found that local variations in plate thickness are significant but that variation of corrosion rates is significant only in the vertical direction. Maximum corrosion rates were found near the knuckle section of the top-head with an estimated remaining service life of 3 yr. at this location, but with lower corrosion rates and a greater life expectancy both above and below the critical area. It was also found that the general corrosion rate increased significantly during the second inspection period.

It is felt that this study establishes the validity of the Audigage inspection procedure as a powerful tool for the study of digester corrosion.

The session concluded with the showing of a motion picture "Corrosion in Action," presented by the International Nickel Co., New York, N. Y.

At the afternoon discussion meetings, *Mill Design and Economic Aspects* members questioned Allan Hyer on his experiences with NPA. *Chemical Engineering* members discussed the session papers and the Data Sheet on Digester Corrosion Inspection. *Steam and Power* members heard the following paper:

Relaying Protection for Operating an Industrial Plant in Parallel with the Utility System—D. F. Langenwalter, General Electric Co.

This paper is intended to serve as an introduction to the topic of relaying the tie between the industrial plant and the utility. This topic is becoming more and more important as utilities and paper mills establish electrical ties for greater continuity of service.

The electrical operating problems associated with such tie operation are described and proper relaying is suggested for various operating conditions. Protection is necessary to avoid loss of production and to prevent damage to motors and generators.

The reclosing speeds of breakers and various types of relays for sensing electrical disturbances are discussed.

The Wednesday morning session on *Electrical Engineering* was conducted by Chairman R. W. Foster and featured two papers.

Recommended Electrical Cable Specifications for the Pulp and Paper Industry—A. O. Mortenson, St. Regis Paper Co.

From a questionnaire submitted to the industry in May of 1951 a wealth of information was received, recorded, and studied, separately and jointly, by TAPPI, the Insulated Power Cable Engineer's Association, and the Canadian Pulp and Paper Association, in conjunction with the Canadian cable manufacturers. That study revealed what was preferred, from what the market afforded, for the various departments and services throughout the entire industry. The trend of thinking concerning the methods of installation now employed was also highlighted. Growing interest in certain types of cable for particular as well as general service was also pointed up.

Several meetings have been held, all of which, except those held by the Electrical Engineering Committee of the Canadian Pulp and Paper Association, have been reported in TAPPI.

Specifications have been written to cover the entire industry — branch by branch, department by department, and service for service. They are herewith presented for approval.

An attempt has been made to cut the number of cable types and sizes to a practicable minimum without surrendering any of the best procurable materials from those available and yet meet the needs as stipulated by the recorded data from the questionnaire of May 1951.

Press Section Load Requirements—R. R. Baker, Westinghouse Electric Corp.

TAPPI Data Sheets 145-G,-H,-I have been prepared giving recommended power constants for the various sections of the paper machines. To continue the effort of establishing the proper value of power constants for the various sections of the paper machine, the Electrical Engineering Committee decided, in this particular instance, to make a more detailed study, of the press section. In making the detailed study, questionnaires were submitted to a number of mills operating sectional electric drives where accurate information was obtained on the power requirements and operating conditions of various press sections. From a study of this power data, recommendations have been made for modifications and corrections of the power constants appearing on the TAPPI Data Sheets.

Main Presses

On the main press for all paper and board formation, it is recommended:

1. That the NRL constant be calculated as follows:

$$\text{NRL constant} = 0.011 + 0.004 \frac{P}{100}$$

Where P is the applied nip pressure in pounds per linear inch.

2. That the RDC constant per pair of rolls retain its present value of 0.03 up to a maximum nip of 300 lb. per linear in.

3. That the RDC constant for top press roll only, retain the present value of 0.010.

On main presses, when used for pulp sheet formation, it is recommended that new constants be added to the present data as follows:

1. NRL constant = $0.025 + 0.00275 \frac{P}{100}$

2. RDC constant per pair of rolls use 0.045 up to a maximum nip pressure of 900 lb. per linear in.

3. RDC constant top roll only use 0.015.

Smoothing Press

The power data obtained on the smoothing press section indicate that the NRL constant per pair of rolls should be reduced to 0.0070 instead of 0.0090 and that the RDC constant of 0.0120 should be retained.

Size Press

The limited number of power readings obtained on the size press section, although suggesting a possible reduction in NRL and RDC constants, is not considered of a broad enough coverage to justify a change in the original recommendations which provide an NRL constant per pair of rolls of 0.015 and an RDC constant of 0.025.

Dual Press

This report covers a very limited amount of data on the power requirements of the dual press section. These limited data, although indicating a somewhat lower power requirement, do not justify any change in the original committee recommendations which suggest for each side roll an NRL constant of 0.0200 and an RDC constant of 0.025.

The *Hydraulics* Session under Chairman K. J. Mackenzie heard the following paper:

Progress Report on the Relationship of a Stock Shear Tester to Head Losses in the Flow of Pulp Stock in Pipes—Richard E. Durst and Lyle C. Jenness, University of Maine

The present status of the hydraulics project at the University of Maine sponsored by the Hydraulics Committee of TAPPI is presented as a progress report.

A pulp stock flow system has been installed and some exploratory tests have been made. The system consists of two 2200-gal. stock chests, a high consistency stock feeder, and pump, appropriate valves and spiral welded wrought iron pipe to provide a 60-ft. straight section of 6⅝-in. o.d., 0.141-in. wall, pipe for the pressure drop measuring section. The test section has pressure taps located so that measurements may be made over 10, 20, 30, or 40-ft. lengths of pipe with calming sections of 10 ft. minimum length before and after pressure taps. Pulp stock for the system is prepared in a 3-ft. Hydrapulper. Pressures at the test points are read from calibrated test gages protected from the stock by oil filled diaphragm pressure seals.

A shear tester has been designed and constructed. The instrument may be described as a large scale viscosimeter with a rotating member which delivers torque through the stock being investigated to the wall of the stock containing cup which is suspended on ball bearings and is free to rotate. The cup rotation is restrained by balancing weights, whose mass is a measure of the torque delivered to the cup by the stock.

The shear stress, expressed in pounds per square inch, has been measured on four stocks over a range of consistencies from about 0.5 percent to 5.0 percent moisture-free stock. The shear stress, when plotted versus rotor peripheral speed in feet per second indicates that for any given stock at consistencies below 1.0 percent the shear stress is nearly independent of rotor

speed. The data are incomplete for higher consistencies but indications are that the shear stress in a function of consistency and velocity for any given stock.

The investigation is being continued and the data taken in the shear tester on the stocks being used in the pulp stock flow system are being studied for a correlation of shear stress with pipe friction loss.

We propose the name, McClure-Perry Shear Tester for the instrument described as a tribute to the two students, John M. McClure and Robert E. Perry, who spent many hours in the design and construction of the completed shear tester.

Engineering Research and Machine Design met in the final session Wednesday P.M. Chairman J. D. Lyall presided over three papers:

Flow in "Converging Nozzle" Type Slices—Can Negative Pressure Be Present?—J. B. Gough, The Mead Corp.

This analysis investigates the pressure of the flow against a straight converging top slice plate, in an approximate manner, for any orifice or jet velocity (particularly at 300 and 600 f.p.m.), any orifice or slice opening (particularly at 0.36 in., 0.375 in., and 0.72 in.), and any convergent angle (particularly at 50, 40, 30, 20, and 10°) of the inclined top slice plate in relation to the horizontal bottom apron plate.

The results indicate that a negative pressure (i.e. below atmospheric pressure) will be present at this inclined top slice surface for a jet or approximate wire speed of 300 f.p.m., "IF" in contact with the liquid (or pond) for any greater distance than 6 in. approx. (from the lip edge), when the angle of convergence is 50° (or more), or for any greater distance than 9 in. approx., when this angle is 30° (or more); thus a negative pressure will occur in a completely sealed nozzle (one having no pond or liquid-air surface), or in a sealed pond under a vacuum, if these critical lengths are exceeded. For speeds of 600 f.p.m. or more, no such negative pressure will be present, even at distances of 24 in. from the lip, unless the angle of convergence exceeds 50°, or unless a sealed pond is under a sufficient vacuum. However, with any liquid-air pond surface, it is possible that a negative pressure between the liquid and the surface of the inclined top slice plate will occur at and just below the point of intersection of pond and inclined plate surface, if the approach velocity of the pond surface is zero or very low.

Two alternative methods of analysis are used, the first neglecting the effect of friction and the second taking it into account, approximately.

The added effect of the curved flow which may be present, due to the usual hinge or curve in the top plate, which will lower these pressures still further, is also briefly discussed; also the possibility of air entrainment at any liquid-air surface, such as an open or closed pond, if this surface intersects the inclined surface of the top slice plate, and the surface velocity of approach is zero or very low, or if the pond surface intersects a curve or hinge in the top slice plate. The possibly bad effect of these negative pressures (and air entrainment) on the smoothness and uniformity of the jet from the slice orifice and on the resulting formation and sheet quality is also discussed.

Photographic Measurement of Drainage Rate—A Method for Determining Sheet Making Rates in Cylinder Machines—Charles F. Payne and William E. Guthrie, Eastman Kodak Co.

Definition of the exact rate of formation of a sheet on a cylinder mold has been desired by papermakers for many years. This information can now be obtained accurately by a photographic method of measuring the drainage rate through a facsimile cylinder mold section.

An apparatus is described which can be calibrated to duplicate the drainage rate that exists on the particular machine under study. The cylinder machine's changing papermaking head conditions are automatically reproduced over a wire section identical to a similar area on the machine. Stock taken from the machine head box is used in all of the tests. The white water drained through the facsimile mold section is collected and measured in a calibrated U tube which is enclosed in an air tight windowed chamber. The air pressure within the chamber can be adjusted to a level equal to the papermaking head above the drainage area and controlled discharge of this compressed air through a calibrated orifice permits duplication of the increasing head prevailing on the cylinder machine. The drainage rate is determined by taking simultaneous motion pictures of the U tube and a high speed clock. The motion pictures are examined, one frame at a time, and the total volume of white water in the U tube is plotted versus time on the clock to obtain a curve of the drainage rate. Once this drainage curve has been established the amount of sheet built up can be determined for any point in the cylinder's travel.

The apparatus may also be used to test the effect of various stock slowness values, consistency values, and wire meshes on the rate of sheet formation. Other applications for this drainage measuring method will be found in the determination of the decreasing volume of stock in the annular space between the cylinder vat circle for overflow vats. Knowing this decreasing volume for various points along the vat circle the average stock velocity can be calculated for these same points. If desired the data may be used for design of vat circles producing definite stock velocity relationships with respect to the moving cylinder.

An Analysis of a Cylinder Vat—Jesse A. Jackson, St. Regis Kraft Corp.

In making a fresh approach to so complex a device as the cylinder vat it becomes necessary to reduce each part of the problem to its simplest essentials. Our prototype is an existing counterflow vat, one of five serving an old veteran of a machine which is still turning out profitable tonnages. However, we would like to improve its ability to exceed the customers' specifications on one of the newer types of paper that have been developed in recent years. A survey of existing literature indicates that experimental test equipment would have to be rather elaborate if it were not to interfere with regular production, and there would still be considerable doubt as the validity of the test results due to the complicated nature of the various factors involved. We are limited, therefore, to any analysis of the flow conditions step by step through the machine, based on pure hydraulic theory. We are encouraged in this effort by the knowledge that there is plenty of practical know-how at hand to keep us from becoming lost in the nebulous clouds of abstract theory. We are fortunate also, in making our assumptions, to find that there is available certain published information on the percentage of formation around the wire. This variable, for which we would otherwise have had to make the wildest kind of a guess, is based on some extremely simple experiments with a strap laid against the turning wire. Because of the general nature of these data, and the other simplifying assumptions that must be made, the results of our studies are chiefly of value in giving an overall picture of what is happening to the fibers at each point of their progress through the machine. Of even greater

potential value, however, is the information which becomes available to the designer when he can compare, by this method, the characteristics of two or more vats of similar design. The method is explained in general terms with sufficient detail of the important formulas so that calculations may be tabulated step by step in an orderly manner.

Final discussion meetings were scheduled Wednesday afternoon. *Electrical Engineering* heard "Power Requirements of Supercalenders" by J. L. Van Nort of Reliance Electric & Engineering Co., Cleveland, Ohio. *Hydraulics* discussed the University of Maine project on "Pipe Friction Loss." *Engineering Research and Machine Design* discussed the session papers and also a project on "Estimating Costs of Engineering Projects."

A special dinner meeting was scheduled for Wednesday evening, at which committee chairmen and secretaries reviewed the conference and discussed plans for the Eighth Engineering Conference. Tentative plans were revealed to hold it at the King Edward Hotel, Toronto, Ont. A general discussion also took place on projects and TAPPI Data Sheets.

Many conference members remained through Thursday to participate in scheduled plant visits. Tours were organized by the Crane Co., the Inland Steel Corp., and the Chicago Stockyards.

Program for Eighth Paper-Plastics Conference of TAPPI

State University of New York
College of Forestry
November 5-6, 1952

November 5, 1952—Fundamental Resin Problems

Chairman: R. Lindenfelser, American Cyanamid Co.

Recent Studies on the Morphology of Cellulose Fibers and their Significance for Fiber to Resin Bonding.
By R. Banby, Polytechnic Institute of Brooklyn.

Polyester Resins and Paper Laminates.
By Russell Dean, Interchemical Corp.

Recent Progress in Measuring and Interpreting Adhesion.
By H. Mark, Polytechnic Institute of Brooklyn.

Special Resin Systems and Technical Problems

Chairman: Russell Dean, Interchemical Corp.

Properties and Uses of Silicone Resins.
Panel discussion led by A. J. Barry, Dow Chemical Co.

A Melamine Type Resin for Beater Addition Process to Form Laminated Sheets or Molding Preforms.
By R. Lindenfelser, American Cyanamid Co.

Abrasion Testing on Decorative Laminates with the Armstrong Abrader.
By F. L. Graves, American Cyanamid Co.

Melamine Resins in Paper Laminates.
Panel discussion led by R. Lindenfelser, American Cyanamid Co.

Business meeting of Sub-Committee on Plastics in Paper Converting.

Special tour plus transportation to new coating laboratory of the Dilts Machine Works at about 3:30 p.m. or the evening.

November 6, 1952—Plastic Applications To Paper

Chairman: R. T. Nazzaro, Westfield River Paper Co.

Machinery for Coating Paper with Plastics.
By R. C. Sturken, Frank W. Egan & Co.

From Art to Science in Envelope Manufacturing.
By P. B. Davidson, Mellon Institute of Industrial Research.

Some Applications of Vinyl Acetate Polymers to Paper.
By R. W. Reiter, National Adhesives Division of National Starch Products Co.

New Products Made by the Beater Addition Process.
By Norman L. Greenman, Rogers Corp.

Methods of Reverse Roll Coating.
By R. F. Vokes, Dilts Machine Works.

Lunch: Drumlins Country Club. Bus leaves College at 12:15 p.m.

Problems in Application of Resins to Paper. Panel discussions by authors of morning session papers plus some members of Sub-Committee on Plastics in Paper Converting.

Guided tour plus transportation to the new coating laboratory of the Dilts Machine Works.

Program Committee

E. C. Jahn, General Chairman, State University of New York College of Forestry

H. Mark, Polytechnic Institute of Brooklyn

R. T. Nazzaro, Westfield River Paper Co.

Top row left to right: William Fondow of Appleton, Leonard Timmer of Kalamazoo and Maurice H. Metzelaars of Constantine, students at Western Michigan College were presented $200 scholarship on behalf of the Paper and Twine Assn. by James L. Richey, Secretary-Treasurer. In addition (bottom row) John W. Grice received the Sophomore technical award and James T. Clarke the Salesmanship award.

Helen Kiely Night

New England TAPPI has designated its November 21 meeting as "Helen Kiely Night" in recognition of her outstanding contribution to the paper industry and to TAPPI. The meeting will be held at Hotel Roger Smith, Holyoke, Mass.

River Raisin Retires 37

Thirty-seven men, with a total working time of almost 1,000 years, retired from the River Raisin Paper Co., Monroe, Mich., October 1. This group was the first to retire under the company's retirement plan for hourly-rated employes.

ELMENDORF TEARING TESTER

Measures the internal tearing resistance of paper, textiles and sheet materials in gram-centimeters. Dependent upon gravity for its operation; the readings must be correct. Any two Elmendorfs anywhere will perform alike under like conditions. Tearing resistance is the most practical test for predicting wearing quality. It is a measure of service. T.A.P.P.I., A.S.T.M. and Federal Standard. Made in many capacities.

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5366 Pulaski Avenue
Philadelphia 44, U.S.A.

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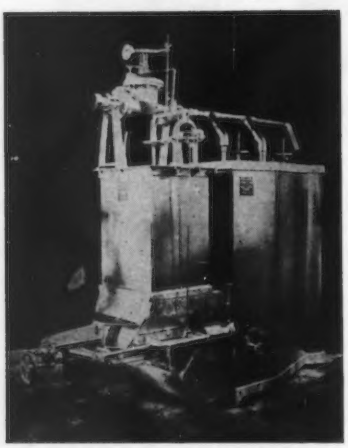
For Economy



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Standard Installation of Poirier Dual Control System

DEPENDABILITY

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WATERVILLE, MAINE
Specialists in Stock Control Equipment for Pulp and Paper Mills

LITERATURE

Atkomatic Electrically-operated Valves. (Bulletin). Contains operating instructions, uses and applications and dimension chart for different types, with special attention to design improvements. New features are adjustable timing on closing stroke up to 300 p.s.i. and explosion-proof housings for use in hazardous atmospheres. Atkomatic Valve Co., 545 West Abbott street, Indianapolis, Ind.

Bauer Centri-Cleaners. (Bulletin P-4) Provides sales copy, operational theory and practice, application and installation diagram. Bauer Bros. Co., Burt & Sheridan Avenue, Springfield, Ohio.

Beckman Bulletin. (House Organ No. 9) Discusses theory and design of the H-F Conductometer, new recording spectrophotometer, redesigned Aquameter and Automatic pH Control for prevention of scaling in heat exchangers. Lists available reports, revised and new bulletins. Beckman Instruments, Inc., South Pasadena 3, Calif.

Biggs-Built Rotary Globe Digesters. (Leaflet) Contains illustrations, specifications and flow diagram of rotary type digester. Biggs Boiler Works Co., 1007 Bank, Akron 5, Ohio.

D'Este Automatic Regulating Valves for Steam. (Bulletin 535) Provides technical data, sectional drawings for different valves, also charts for capacities of pressure regulators with approximate flow of saturated steam p/hr. Kaye & MacDonald, Inc. 11-15 Central Avenue, West Orange, N. J.

DEL Protective Coatings. (Leaflet) Includes technical data, chemical resistance chart, sales copy. David E. Long Corp., 220 East 42nd street, New York 17, N. Y.

Honeywell Evenly Graduated Flow Meters with Electronic Integration. (Catalogue 2300) Contains technical data, schematics, charts, general installation and piping information. Minneapolis-Honeywell Regulator Co., Wayne & Windrim Avenues, Philadelphia 44, Pa.

The Messenger. (Brochure) Black-Clawson, Shartle & Dilts' installations at National Gypsum's new board mill at Pryor, Okla. are carefully described and illustrated, also its "Gold Bond" line of building materials. Black-Clawson Co., 2nd & Vine streets, Hamilton, Ohio.

New Resources Bring New Opportunities. (Seventh Quarterly Report) Prepared for the President by Director of Defense Mobilization, Henry H. Fowler in collaboration with other agencies and many persons inside and outside Government, the booklet contains graphs, charts and pertinent information relative to economics, military equipments, manpower, material resources, etc. as of October 1, 1952. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price 30 cents.

Reliance M-G Sets. (Bulletin F-2502) Briefly describes complete line of "custom-tailored" M-G sets, includes six typical applications. Reliance Electric & Engineering Co., 1088 Ivanhoe Road, Cleveland, Ohio.

Tygon-Corrosion-Resistant Linings. (Bulletin TL-526) Presents illustrated history as a lining and covering material; also methods of preparation, application, maintenance and repair of mechanical damages. Sidney Lewis, U. S. Stoneware Co., 60 East 42nd street, New York, N. Y.

Chemistry of Lithography. (256 p. book) Describes many chemical phases involved in lithography, basic chemistry for the beginner, difference between facts and theories. The chemistry of platemaking, photography, paper and ink are also discussed. Written by Paul Hartsuch, formerly Supervisor of Metals and Chemistry Div. Lithographic Technical Foundation Research Laboratory. Price $6.00 less 40 percent for members, $12.00 non-members. To be published in November by Lithographic Foundation, 131 East 39th street, New York 16, N. Y.

Organize to Fight Budworm

OTTAWA—As part of the all-out war from the air against the spruce budworm in New Brunswick's forests, a non-profit co-operative company, Forest Protection Ltd., headed by V. E. Johnson, president of New Brunswick International Paper Co., has been organized and initial plans already call for the construction of five airfields in that area of Canada in order to carry out the air attack over approximately one million acres of timberland. The airfields are expected to be completed before winter sets in that area.

Other officers of the company include vice-president Aubrey Crabtree, president of Fraser Cos., Ltd.; secretary-treasurer J. H. Ramsay, Deputy Minister of the Department of Lands and Mines of New Brunswick; manager B. W. Fleiger, of New Brunswick International Paper Co.

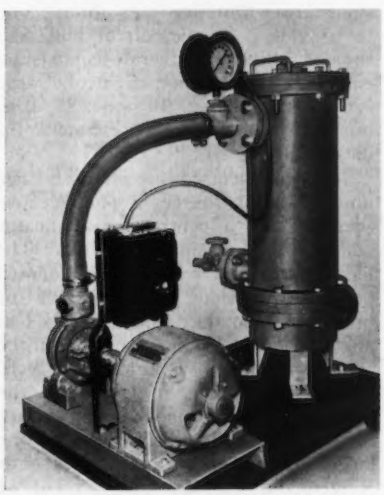
EQUIPMENT AND SUPPLIES

Mobile Flop-Over Conveyor Curve

The Wilkie Co., 5520 Arch street, Philadelphia 39, Pa. has marketed a 90° conveyor curve designed to provide greater flexibility and to eliminate set-up time in filling or emptying freight cars.

The curve consists of a half-section pivoting on the center 45° axis. Wheels or rollers on the half-section extend above the channel on both sides, permitting the half-section to function when flipped in either direction, and allowing the direction of flow to be changed 180° simply by changing the position of conveyor from left to right as needed.

When used in combination with the Telescopic Conveyor, the curve can be embodied into any conveyor system. Both wheel and roller models are available.



Corrosion-Resistant Filtering Equipment

Sethco, 70-78 Willoughby street, Brooklyn 1, N. Y.) (Dept. PTJ) announces an addition to its line of corrosion-resistant filtering equipment as the RLS Series.

Consisting of Models RLS-1200 and RLS-2400, the new filter pumps are built to produce sparkling clear filtration of practically any acid or alkaline solution from pH 1 to pM 14. RLS-1200 is rated at 1000 to 1500 g.p.h.; RLS-2400 at 2000 to 2500 g.p.h. for filtering.

In addition to self-priming turbine pumps and automatic controls, the new units feature stainless steel type 316, pump and fittings — mostly corrosion resistant; rubber-lined filter assembly; drip proof 220-440 v, 3-phase motors of proper rating to give flow rates noted above; heavy polished bakelite base 1" thick used for mounting the equipment; base equipped with heavy ball bearing, rubber covered casters for easy portability.

NBS Stiffness Tester

A sensitive instrument which rapidly and conveniently measures the stiffness of commercial papers has been developed by F. T. Carson and Vernon Worthington of the National Bureau of Standards, U. S. Department of Commerce, Washington 25, D. C. In the new device, the specimen is bent through a given angle, and its stiffness is measured by the torque in a wire suspension. By varying the width and length of the specimen and the angle through which it is bent, and by using supporting wires of different sizes, instruments of this type could be employed to test papers having a wide range of stiffness, it is believed. The NBS Stiffness Tester is also expected to prove useful in evaluating the stiffness of thin plastic sheet, textiles, and similar materials.

The NBS device is designed to put a measured twist on the specimen, which is supported in clamps at its two vertical edges. One clamp, through which the torque is applied, is securely attached to the specimen; the other clamp, which applies the reaction, holds the specimen loosely so that it can bend freely and naturally. The first clamp is suspended between two vertical lengths of piano wire, and the outer ends of the wires are fastened to a torque frame. When the torque frame is rotated, the applied torque is transmitted by the piano wires to bend the paper. A pointer attached to the rotating clamp indicates (by its position on a fixed scale) the angle through which the paper is bent, and at the same time shows (on a scale attached to the torque frame) the torque applied to the piano wire.

The apparatus owes its sensitivity in considerable degree to a design which eliminates the need of bearings in the torque measuring device. Another advantage of the design is the vertical bending axis, which makes the measurement independent of gravity effects.

Corrosion-Resistant Fan of Industrial Plastic

A large industrial ventilating fan made entirely of Lucoflex, an unplasticized hard polyvinyl chloride material, was included in the recent Chemical Exposition in Chicago by American Lucoflex, Inc., 1 East 57th street, New York, N. Y.

Described as a lightweight, durable,

HAYDENIZE

This hollow shaft and its journals looked like junk after 30 years of hard, corroding service.

Today, HAYDENIZED (custom metallized) and fitted with new cylinder mould spiders, it looks and works like new—all at a fraction of the cost of new journals and hollow cast-iron shaft.

ECONOMIZE this wise way. Ask us for details.

THE HAYDEN WIRE WORKS, Inc., 31 Sylvan, W. Springfield, Mass.

chemical-resistant, and requiring a minimum of support when installed, the Lucoflex fan is held to be particularly efficient in chemical plants where cracking or aging is a problem.

Lucoflex is known as a non-inflammable, unplasticized rigid polyvinyl chloride plastic, having outstanding thermal, chemical and physical properties.

Available as a bulk resin which may be compression and transfer molded and extruded, also in the form of sheets, rods and tubes which may be machined, formed, welded, and cemented, it is translucent in thin sections, and opaque in thick sections. Rated specific gravity is about 1.4, and it is free of taste, odor and toxicity, the manufacturer claims.

Demonstrating its use in general chemical industries are products such as a large chemical valve, chemical hoods, a newly-devised circulating pump-and-tank-unit, chemical buckets, fabricated parts, chemical-resistant sinks, and various stock materials.

Porous Castings Salvaged

A new combination of sealing materials and impregnation methods now makes possible 100 percent "filling" of microporous voids in metallic castings, according to an announcement by Polyplastex International, Inc., 441 Madison avenue, New York, N. Y.

The process is based on the use of a specially-formulated thermosetting resin. Known as Polyplastex MC, the resin is distinguished by the fact that it is 100 percent reactive—that is, all of the sealant converts into a solid of excellent physical and chemical properties. Thus, when the liquid resin fills all of the pores, it occupies the same volume after it becomes solid.

The impregnating resin is held to be resistant to a wide variety of solvents, water, salts, hydrocarbons and glycols, as well as acids and weak alkalis. The cured resin can withstand continuous exposure to temperatures up to 350°F., it is said. Although it is hard, the resin is yet resilient enough to allow for expansion and contraction of the metal due to variations in temperature.

Leaking castings can be salvaged by one of the following methods: (a) external vacuum; (b) internal pressure; (c) internal vacuum; or (d) vacuum and pressure—the most commonly used method. This latter method utilizes a vacuum-pressure tank in which the castings are placed. The tank is closed and a minimum vacuum of 29 in. (mercury) is applied. The sealant is brought into the tank to cover the castings and 100 p.s.i. of air pressure is applied to the fluid head, forcing the sealant into all microporous areas. After impregnation, the castings are removed from the tank, their surfaces cleaned, and finally put into an oven to be cured. No surface stain or film is left by the process, so that the properties of the casting are not in any way impaired.

Pointed out is that both ferrous and non-ferrous metals can be economically processed by the Polyplastex method, with perhaps its greatest use in aluminum and magnesium castings, since microporous flaws are particularly prevalent in low-density metals.

The impregnation process is held to be particularly valuable for pressure type castings, including such units as fuel pumps, valves, carburetors, hydraulic units, meters, motor parts, lubricating components, and radar and range finder parts.

Photoelectric Smoke Indicator

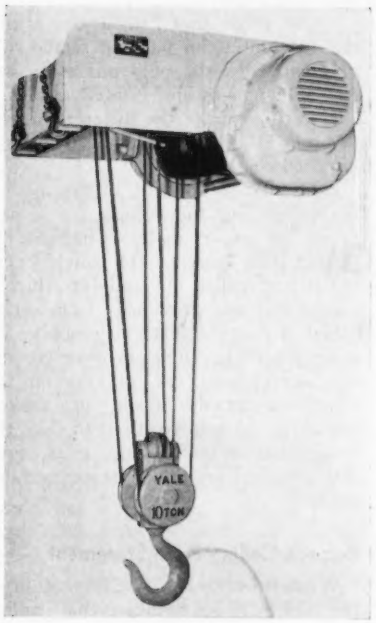
To assure that plant smoke conditions are within the legal limits, and to provide a simple, direct and continuous check on overall combustion efficiency, Combustion Control Corp., 720 Beacon Street, Boston 15, Mass. offers Fireye Photoelectric Smoke Indicator Series FE.

The equipment consist of three basic units: a light source, a photoelectric scanner, and a control and indicator combined in a single housing. The light source and scanner are mounted on opposite sides of the stack or breeching, and the indicator placed at any convenient location, such as on the control panel. As smoke in the breeching passes through the light beam, the indicator shows a smoke density reading which can be easily read on the large 4½ inch indicator scale in both Ringelmann numbers and percent of smoke density. Red and green jewel lights are designed to provide visual indications of excessive or efficient smoke conditions.

Design details highlighted are: (1) the alarm can be set to operate at *any* predetermined value of smoke density from 10 percent to 100 percent light cut-off, (2) through the use of simpli-

fied mounting design and a specially designed shutter located in front of the light source lens, installation has been greatly simplified, (3) equipment has been designed to operate under exacting industrial conditions of high temperature and excessive humidity.

Inquire for Bulletin CM506.



Hoist for Bridge Cranes

New deck-type Cable King electric hoists, designed for top mounting in double-girder bridge cranes, are available from Yale & Towne Manufacturing Co., Roosevelt Boulevard, Philadelphia 15, Pa.

The units, available in capacities of from 1 to 15 tons, feature compactness of design; triple-reduction, spur-geared drive; totally-enclosed, fan-cooled motor; rugged heavy steel suspension frame; and pushbutton-operated heavy-duty contractor.

For safety, the hoists are equipped with two brakes—a Weston-type friction brake in the gear train, and a solenoid-operated contracting drum-type motor brake.

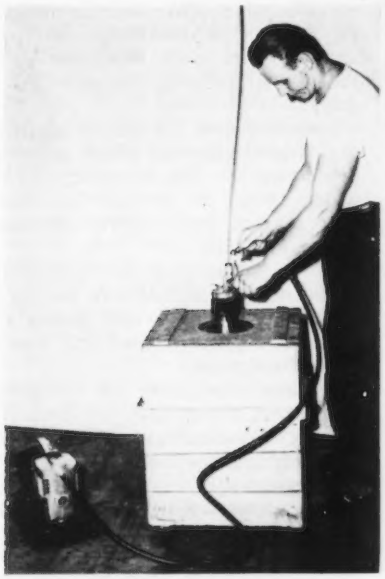
The control station can be mounted in the crane cab or remotely located. Controls for operation of the trolley and bridge also are available.

Rubber-Base Floor Paint

A new rubber-base paint for use in the protection of concrete floors from traffic wear, moisture, chemical and cleaning compound attacks is offered by Tropical Paint & Oil Co., 1210-52 W. 70th street, Cleveland 2, Ohio.

Developed on a synthetic rubber-resin base and known as Tropical Floorkote, it is said to have unusual durability on masonry floors both old and new.

Claimed by the manufacturer is that the paint can be applied equally well to old concrete or new uncured concrete, to basement floors, and to floors laid directly on the ground over cinder fill; that it dries in four hours to a rich gloss; it seals the floor and will not react with caustic soaps or cleaning compounds; and that it cannot saponify or rub off because of alkalies present in the concrete.



Motor-Driven Acid Pump

Announced by General Scientific Equipment Co., 2700 W. Huntingdon street, Philadelphia 32, Pa., is a motor-driven acid pump designated to drain acids and other liquids safe and fast from carboys, drums and barrels.

The pump is self contained, portable, compressor and electric motor driven, fully equipped with safety air valves which prevent the pressure from exceeding 15 lbs.

As regularly supplied, this pump will fit all standard carboys, but special plugs and adapters are required to fit some stainless steel, aluminum, and plastic containers.

Canadian Loadings Increase

Canadian Government reports car loadings on the railways across the nation increased to 946 cars of wood pulp in week ended September 30 compared with 864 cars in the preceding week and increased to 3,191 cars of newsprint paper against 2,388 cars, with paperboard, pulpboard and wallboard rising to 656 cars against 510 cars and paper other than newsprint increasing to 656 cars against 510 cars in previous week.

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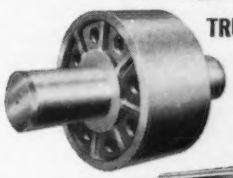
GIRTH GEARS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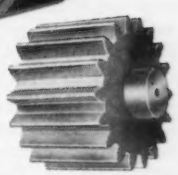
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GOVERNMENT DOINGS

Allocation of Central Office Expenses

Manufacturers applying for a ceiling price increase because they are experiencing losses in the operation of separate plants or factories may now include an allocation of central office expenses in calculating the loss.

This action is covered by Amendment 5 to General Overriding Regulation 10 (GOR 10), effective September 22, 1952.

Under GOR 10, manufacturers in a loss position, either for their entire business or for a separate plant, may apply for an upward adjustment of ceilings. But before they could not include central office expenses in calculating the loss for a separate plant.

This prohibition was imposed because of the difficulties involved in determining the proper allocation of central office expenses to separate plants.

OPS found, however, that the prohibition worked a hardship on some manufacturers with heavy central office expenses.

Accordingly, the amendment grants relief to manufacturers who concentrate some or all of their administrative operations in a central office and equalizes their position with manufacturers who perform such functions in the administrative office of the separate plant.

The amendment restricts allocations of central office expenses to those consistent with the applicant's previous practices, if any, and with sound accounting principles. The allocations are subject to OPS review.

When applying for an increase in ceiling prices, on the basis of an operating loss for a separate plant, a manufacturer must file profit and loss statements for both the plant and the entire business. If the statement for the separate plant includes the allocation of central office expenses, it must show both the amount and the method used in arriving at that amount. The application must also show the method used for allocating central office costs or expenses to the separate plant in each of the years from 1946 to date.

End Newsprint Rationing in Norway

WASHINGTON, D. C. — Rationing of newsprint in Norway was ended October 1, according to an official source here. Under a revised subsidy plan, in operation through next June, most of Norway's 200 daily newspapers will be safeguarded against higher newsprint prices, but 53 of the largest papers will pay an increase, it was reported.

Pulp & Paper Committee IMC Killed

The Pulp-Paper Committee of the International Materials Conference announced that its member governments have accepted a recommendation that it be dissolved forthwith.

This action was based upon further evidence of improvement in the supply position of dissolving wood pulp and newsprint in the free countries of the world, since its last appraisal in July.

Specifically, the Committee reported:

1. A record level of North American production for January-July 1952, which shows an increase of almost four percent over the corresponding period of 1951.

2. An encouraging increase in exports from North American sources to other parts of the world despite the sustained high level of North American consumption.

3. Lack of requests for emergency supplies of newsprint.

4. A continued satisfactory newsprint supply situation in Europe.

5. Increased inventories in some consuming countries and notably in the United States.

The Pulp-Paper Committee has been in existence since April 30, 1951, and was set up to examine and recommend action on newsprint and woodpulp supply problems. A number of emergency allocations of newsprint were made in 1951 and early 1952 to 18 countries in all. The Committee did not find it necessary at any stage to recommend allocations of woodpulp.

Fifteen countries were represented on the Pulp-Paper Committee. They were: Australia, Austria, Belgium, Brazil, Canada, France, the Federal Republic of Germany, Italy, Japan, Mexico, the Netherlands, Norway, Sweden, the United Kingdom and the United States.

NPA Now Responsible for Civilian Requirements

WASHINGTON, D. C. — A new NPA division, responsible for civilian requirements has been established, succeeding the Office of Civilian Requirements, which has been terminated.

The new agency will be the Office of Distribution, in the Department of Commerce, and a new Civilian Requirements Division in NPA. The new NPA unit will be responsible for defense production activities related to civilian requirements for consumer products and civilian production programs, including wholesale, retail and service trades.

Change CPR on Writing and Other Fine Papers

The OPS has announced two changes in ceiling price provisions concerning writing paper and other fine papers.

The changes made by Amendment 2 to CPR 91, effective October 18, 1952, are as follows:

1. An error in CPR 91 concerning the differential for packing jumbo rolls of chemical wood pulp onionskin and manifold papers and related grades is corrected to make the differential supply per 1000 sheets instead of per hundredweight.

2. A change is made in the method for computing the ceiling for a new grade of paper under Appendix C, "Other Fine Papers," for which a ceiling is not spelled out and for which a ceiling has not previously been established. A manufacturer may employ the same percentage markup over current unit direct costs he obtains on the most comparable grade he makes. Formerly, he was required to take the dollars-and-cents markup over total cost obtained on the most comparable grade.

Require Ceiling Price Statement

WASHINGTON, D. C.—Elimination of the OPS requirement that ceiling prices be stated in connection with defense contracts and subcontracts was announced by the agency this week.

Hereafter, a simple certification by subcontractors that their price does not exceed the ceiling price, will be accepted.

The new certification requirement applies to services supplied in connection with production, processing, distribution or packaging of a commodity for delivery to a defense agency, as well as to the commodity itself.

MSA Sends Killen to Yugoslavia

WASHINGTON, D. C. — Appointment of James S. Killen, vice-president of the Pulp, Sulphite and Paper Workers' Brotherhood, A.F.L., as chief of a Mutual Security Agency special mission to Yugoslavia, was announced by the agency last week. Mr. Killen leaves Washington November 15, for Belgrade, to assume his new post. His home is in Falls Church, in nearby Virginia, but he is a native of Port Townsend, Wash.

Japan to Buy Canadian Pulp

OTTAWA — Japan is planning to purchase approximately $15 million to $20 million worth of pulp from Canadian sources, it is reported by Japanese Ambassador to Canada, Hon. Sadao Iguchi. The purchases would be made during 1952-53.

Ask Higher Tariff on U. S. Chemicals

Appeal has been made to the Canadian Government by a prominent chemical industrialist that the Government should build up a higher tariff wall for the fast growing chemical industry of that country in order to save it from falling victim to United States competition.

Dr. J. S. Jane, of Montreal, president of the Chemical Institute of Canada, in an address to the Institute, said higher tariffs need not mean that the consumer would be penalized with higher prices since an agreement could be made between the Government and any chemical company which would guarantee that the company would supply the tariff-protected product to Canadian consumers at equivalent world prices. If the company failed to carry out the agreement, then the tariff would be removed and "the foreign product allowed to enter free of duty."

Such a higher tariff wall would not only help safeguard industrial employment and development, he said, but it would put Canada in a better trade bargaining position with the United States. Trade in chemicals between Canada and the United States has grown to be "pretty much a one-way street," he stressed, because of Canada's low tariff. The Canadian chemical manufacturer has to share the domestic market with large United States companies and "at the same time he is prevented from participating in the United States market by a very efficient tariff barrier."

"Canada, with little or no tariff wall, is in a very poor bargaining position opposite the United States," Dr. Jane pointed out, adding significantly the United States had a "highly developed protective system."

"There is litle or no incentive in the United States to lower trade barriers to the whole world just to let Canadian goods in when most of the advantage accrues to Canada, but they, the American manufacturers, explain the situation would be entirely different if we raised our tariff wall equal to or even higher than the United States; then there would be considerable incentive in the United States to bargain downward, especially as Canada is Uncle Sam's best customer."

Government Aids New Brunswick Fight Spruce Budworm

OTTAWA—Following representations made by New Brunswick Premier McNair and Lands and Mines Minister Gill, the Canadian Government has agreed to aid in attacking a serious threat to hundreds of millions of dollars worth of valuable balsam fir and spruce forests in Northern New Brunswick.

In view of the magnitude of the impending loss the Canadian Government will contribute one-third of the cost of large-scale spraying operations designed to protect more than 4,000 square miles in northern New Brunswick which are now seriously affected by the budworm, an insect which attacks the balsam fir and spruce forests on which the pulp and paper industry of the Province depends. In the absence of preventive measures, timber with a stumpage value of some $100 million and a much higher value to the consumer, is threatened with destruction. A loss of this magnitude would not only constitute a major blow to the economy of the Province but would be an important factor in the national economy as well.

Earlier this year, an experimental spraying operation from the air was carried out on 200,000 acres in the infested area as a joint undertaking by the New Brunswick Government and private industry. This operation is considered to have been successful. The large-scale operation now being planned provides for the spraying of some 2,500,000 acres of forest, to be completed by 1954. An immediate start is to be made on the construction of airstrips in the infested area, from which aircraft can begin spraying operations as soon as conditions permit in the spring of 1953.

In addition to the financial assistance the Canadian Government will provide technical advice and aid through the Federal Science Service of the Department of Agriculture and the Forestry Branch of the Department of Resources and Development.

Ask Continuation of CM Controls

WASHINGTON, D. C. — Controls on critical materials should be maintained at least until the first of 1953, water treatment equipment makers have recommended to NPA.

A major problem of the industry, an advisory committee also reported to NPA, is difficulty in obtaining technical help, such as engineers and chemists, due to large manufacturers or military service taking college graduates, or even students before graduation.

Provided they can get critical materials and technical help, the committee said, water treatment manufacturers have a capacity for still higher production than in 1952. The order backlog ranges from 45 days to 12 months, while materials inventories are generally low.

Ask Modification of Sulfur Order

The Native Sulfur Industry Advisory Committee recommended to the NPA, that the agency modify its Sulfur Order, M-69, to eliminate present use restrictions but to retain the order's reporting requirements.

The committee also recommended that NPA requests the Office of Price Stabilization to eliminate price controls on sulfur as an incentive to develop additional sources of sulfur supply.

NPA estimated sulfur consumption for 1952 at 6,090,000 long tons and a representative of the Bureau of Mines estimated total supply at 6,524,000 long tons indicating a 434,000 ton increase in sulfur inventories in the hands of producers and consumers.

Comparable estimates for 1953, which were agreed to by members of the committee were: Consumption, 6,637,000 long tons; total supply, seven million long tons with an indicated inventory increase of 363,000 long tons.

An industry spokesman said that in view of the improved sulfur supply, controls no longer are necessary. He said that if controls are not removed it will be necessary for his company to curtail production in order to reduce stocks to make way for new mines coming into production.

Sonoco Buys Gates

Gates Paper Co., makers of industrial paper products, has been purchased by Sonoco Products Co. of Hartsville, S. C. E. H. Southwell, Gates president, will remain as general manager at the plant.

American Paper Products Buys Locke Brothers

The American Paper Products Co., Philadelphia, Pa., has acquired the firm of Locke Brothers, 2016 Naudain street, Philadelphia, Pa., manufacturers of paper cones. Locke Brothers was established in 1947 and after three years of technical development produced velvet cones. These paper cones are used in the textile industry for winding of nylon and other synthetic yarns. Under the partnership of L. J. Perelman and R. G. Perelman, who own the American Paper Products, the firm of Locke Brothers was moved to its new location, 2030 E. Auburn street, Philadelphia. The name of Locke Brothers has been changed to the American Cone & Tube Co. Additional equipment is being installed to increase paper cone production. Distribution of the company's product will be handled by the firm's other plants at Philadelphia, Pa.; Waltham, Mass.; Paterson, N. J.; and Grand Island, Nebr.

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PEOPLE

ERNST MAHLER, executive vice-president of Kimberly-Clark Corp., retired on October 17. He will be succeeded by **John R. Kimberly.** While he retires after 38 years of active service in accordance with the corporation's retirement plan, Mr. Mahler will continue as a director and his services will be available as a consultant. In addition he was designated as an alternate member of Kimberly-Clark's Executive Committee.

H. G. Boon, who had been operating vice-president has been designated as vice-president of industrial and public relations. **A. G. Sharp** has been elected to succeed Mr. Kimberly as vice-president in charge of sales. **John B. Catlin** has been named assistant vice-president; and a series of changes have been made in the financial department. The latter development involves the early resignation of **J. Frederick Hunt,** secretary-treasurer, in lieu of his normal retirement in January. **J. Leslie Sensenbrenner** was elected secretary and will continue in charge of the insurance and land department; **John R. Whitney** was elected treasurer and will also supervise all budgeting for the corporation and subsidiaries; **Edward Davitt,** in addition to continuing as comptroller, was appointed assistant secretary - treasurer. Mr. Hunt will continue in an advisory capacity until his retirement.

Since joining Kimberly-Clark in 1914, Mr. Mahler has earned recognition from the industry as an outstanding exponent of research in pulp and paper making. He brought the first pulp and paper laboratory into Kimberly-Clark operations and the technical control and new product development that followed resulted in many items that are among the nation's well-known trademarks.

When Brown University awarded him an honorary degree in 1937 as 'a leader in transforming an ancient art through modern scientific practices,' the university mentioned his foresight in having founded the Institute of Paper Chemistry and in being one of the founders of TAPPI. Mr. Mahler is a director of numerous corporations.

The corporation's new executive vice-president has both a manufacturing and sales background. Mr. Kimberly started with Kimberly-Clark in 1924 and became assistant general superintendent and a director in 1937. In 1940 he was given a leave-of-absence to join the War Production Board of which he became Deputy Director. He returned in 1943 to head up Kimberly-Clark sales.

ARTHUR BROSIUS, superintendent of the Riverside Mill of Brown Co. will retire on November 1. Mr. Brosius came to Brown Co. in 1915. Five years later he became superintendent of the Riverside Mill, and in 1931 was appointed paper mill superintendent at the Cascade Mill. Returning to Riverside in 1939 as superintendent, he played a highly important role in the many development phases of Brown's special papers. Mr. Brosius has seen the Towel Division grow from a single converting machine operation to one of the largest manufacturers of industrial paper towels in the country. Long a member of the American Pulp & Paper Mill Superintendents Association, he served as Chairman of the Eastern Division in 1950.

JAMES C. HOW has been named assistant to the manager of industrial relations, New York office of Robert Gair Co., Inc. Mr. How, who has been personnel manager at Gair's Boston Corrugated Box Division, Cambridge, Mass., originally joined the company in 1943.

CARROLL M. THUREEN, has been named research chemist at the International Falls research laboratory of the Minnesota and Ontario Paper Co. Warren T. Peterson, project engineer, becomes a member of the engineering staff. **Ernest R. Gustafson,** hydraulic engineer, also joins the International Falls engineering staff.

FRANK J. LOVEGREN became associated with the P. H. Glatfelter Co., Spring Grove, Pa. on October 1. Mr. Lovegren has joined the New Product Development Department headed by A. G. Dreis.

WILLIAM A. WRIGHT, director of service operations for the Kimberly-Clark Corp., has been named administrative vice - president of the International Cellucotton Products Co., Chicago. Mr. Wright has been with Kimberly-Clark 22 years. His successor will be **H. W. Pierce,** head of the firm's planning department.

WALTER M. KERSTEN, a sales representative with the Nekoosa-Edwards Chicago office for the past three years, has been assigned both fine and wrapping paper accounts in Michigan, formerly serviced by **L. A. Gardiner.** Mr. Kersten has been with Nekoosa-Edwards seventeen years and began doing consumer contact work in the Chicago area in 1950.

L. G. Mortell, a consumer salesman in Nepco's wrapping grades division, has been assigned to all the fine paper accounts formerly serviced by Mr. Kersten.

EDWARD HOFF, assistant foreman in the paper stock department of Todd Co., Rochester, N. Y., won an employe suggestion award of $4,243 for submitting an idea which permits saving nearly 90,000 pounds of check paper annually by reducing the size of the rolls ordered from the mill. The award is the largest in the 15-year history of the company's employee suggestion system. Todd manufacturing makes checks and check writing equipment.

William M. Harris has been appointed assistant to Marshall M. Miller, sales manager of Mid-West Paper Products Co., Detroit.

JOHN H. SCHOLL has been made personnel manager at their Haverhill (Mass.) Boxboard Division of Robert Gair Co., Inc. He had been personnel manager at Gair's Brooklyn division before being transferred to the larger plant, joined the company in 1945.

Stuart R. Bagni is now personnel manager at the Eastern States Cartons Division, Brooklyn, N. Y. He joined the Haverhill plant last year as a trainee.

Charles A. Stark has been appointed personnel manager at the Boston Corrugated Box Division, Cambridge, Mass. Formerly in the sales department there, he joined the company in 1941.

Arthur J. Beilein has been made personnel manager at the Tonawanda (N.Y.) Boxboards Division. He joined that division in 1936 and has been working in their plant.

FRANK S. KAUFMANN has been named director of purchases for the Atlanta Paper Co. He succeeds **John H. Hellweg,** who has been transferred to the sales department of the company. Mr. Kaufmann is well known to the trade, having had more than 18 years' experience in various phases of the folding carton industry, and has been associated with the Atlanta Paper Co. for more than two years as head of sales service in the folding carton division.

MILFORD J. TAYLOR has been named assistant sales manager in charge of the New England territory of Erving Paper Mills. Mr. Taylor, before joining Erving, was sales manager of the Wisconsin Tissue Mills.

A. J. LUETTGEN has assumed the position of general superintendent at the P. H. Glatfelter Co. **L. B. Owen,** formerly assistant mill superintendent, has been elevated to mill superintendent.

WARREN A. CHILSON has been named technical assistant to Director of Production, **Leo Geiser** of Champion Paper and Fibre Co.

Mr. Chilson will be stationed in the company's general office at Hamilton, Ohio. His background and qualifications include work at Forest Products Laboratory, and such previous positions as general superintendent and plant manager, Cellufoam Corp.; manager of sales service, Hooker Electrochemical Co.; sales executive, Sandy Hill Iron and Brass; advisor to the president, Northern Paper Mills; and sales manager, Curlator Corp.

WILLIAM J. BUCKLEE has been appointed general sales manager of the Johns-Manville Celite Division. Mr. Bucklee succeeds **William D. Van Arnam** who has retired.

Mr. Bucklee joined Johns-Manville as a sales representative when the Celite Products Corp. was acquired by Johns-Manville in 1928. Since that time he has held positions of sales responsibility in the North Jersey, Philadelphia and Baltimore territories and in January, 1950, was appointed Eastern District Sales Manager of the Johns-Manville Celite Division with headquarters in New York.

CHARLES R. WHITE has been elected vice-president in charge of sales of Sangamon Paper Mills, Inc. Mr. White was formerly head of sales and merchandising for three national companies, The Munsingwear Corp., Industrial Rayon Corp., and Federal Electric Co.

As a supplier of packaging materials, therefore, Mr. White will be able to see the problems of his customers from their own viewpoint and to bring to bear for their solution a well-rounded and unusual experience in the merchandising of packaged goods.

CLARENCE MILLER, chief engineer of the MacSimBar Paper Co. for the last 24 years, retired from his post October 8. In addition to recognition for his long service by fellow employes, he was also presented with a safety award in recognition of his department having operated for more than two years without a single lost time accident.

JOSEPH W. MARSHALL, Washington advertising man, has been appointed advertising and trade relations manager of Stanford Paper Co.

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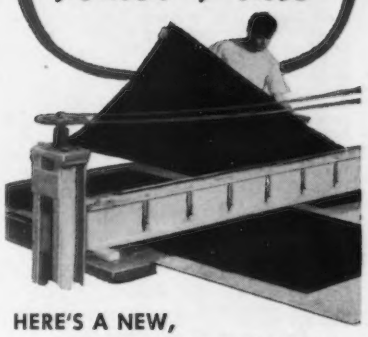

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PRICES

The prices below reflect market quotations in New York at the mill level on standard grades. Does not include spot offerings.

PAPER AND BOARD

Standard News, Delivered Ports
Rolls, contract, per ton ..... $116.00/$126.00
Sheets 138.00/ 147.50

Kraft—per cwt. 50# base wgt. OPS Ceiling CPR 88 *
F.o.b. Southern & Western integrated mills. C.l. Freight allowed up to $10 a ton.

Standard Wrapping, ctr. rolls ...	$7.75/ —
Butchers, counter rolls	8.25/ —
Standard Bag, mill rolls	7.50/ —
Shipping Sack, mill rolls	7.75/ —
Gumming, mill rolls	8.00/ —
Asphalting, mill rolls	7.75/ —
Envelope, Sub. 20, mill rolls ...	9.25/ —

Tissues—per ream 24x36 (480) 10 lbs. 2500 lbs.

Wh. No. 1 Frd.	$1.85/$1.90
Wh. No. 1 MG	1.85/ 1.90
Wh. No. 1½	1.50/ 1.65
Wh. No. 2	1.35/ 1.45
Kraft Anti-Tar 20-30	1.75/ 1.80
White Anti-Tar 20-30	2.20/ —

Toilet— per case of 100 rolls—1M sheets

Unbleached 4½x4½	$8.00/$8.25
Unbleached 4½x5, 650 sheets	6.65/ —
Bleached 4½x4½	10.00/12.50
Bleached 4½x5	9.81/10.14
Per Case of 50 rolls—2000 sheets	
Unbleached 4½x4½	$8.00/$9.75
Bleached 4½x4½	6.95/ —
Per Case of 100 rolls—1000 sheets	
Facial, 4½x4½, 2 ply	$8.95/10.37
4½x5, 2 ply	10.25/10.75

Paper Towels—per case of 3750

Wh. Jr. M'tif'd 9½x9½	$6.40
Br. Sr. M'tif'd 9½x12	4.40
Br. Jr. M'tif'd 9½x9½	3.90
Br. Jr. Sgl. fold 9½x10½	3.95
C-Fold 10½ min. x 14 max.	5.90/ 6.64
Blchd. 7½x11, 48/50 rolls	6.80/ 7.92

Manila, per cwt.

No. 1 Jute Tag, 100-lb., sheets...	$19.55/21.55
Reg. Jute M.F. 40-lb., sheets....	18.50/20.50
Printing Manila	12.00/ —

Gummed Tape—per bdl., 500 bdls. or more

90-lb. 375 ft. GSI	$6.90/ —
60-lb. 600 ft. GSI	6.90/ —
35-lb. 800 ft. GSI	7.95/ —
35-lb. 500 ft. GSO	6.00/ —

MARKET WOOD PULP

Fourth Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered Basis U.S.	Canadian	Varying Freight Allowances Swedish	Finnish	Norwegian
Groundwood	$82.50/ 87.50†	‡$60.00/ 85.00	‡§66.00/ 70.00		$75.00/ — §
Sulfate, Bleached	140.00/147.50	145.00/155.00	140.00/142.50§		
Semi-bleached Sulfate ..	140.00/ — *		135.00/ —		
Sulfate, Unbl.	100.00/ —	100.00/125.00	$100.00/105.00§	$105.00/135.00	100.00/ — §
Sulfite, Blchd.	140.00/ —	140.00/145.00	140.00/ —	140.00/ —	140.00/145.00
Sulfite, Unblchd.	125.00/132.50	135.00/ —	115.00/ — §	120.00/125.00	115.00/ — §
Sulfite, Unbl'd (Glassine)	132.50/ —	139.00/ —	119.00/ — §		
Soda, Blchd.	140.00/ — *				
Sulfite Screenings	72.50/ — *				
Sulfate, Screenings	67.50/ — *			Delivered Basis	
Groundwood Screenings .	60.00/ — *				
Unblchd. Sulfate Sideruns	132.50/ — *				
Stand. News, Sideruns ..	92.50/ — *				

* OPS Ceiling, CPR 49. ‡ F.o.b. Shipping Point. § On Dock Atlantic Ports.
† Midwestern markets.

Boards Deld., per ton (10 tons or over)

Filled News	$90.00/ —
Plain Chip	90.00/ —
Blchd. Mla. L-d. Chip	140.00/142.50
White Pat. coated .020	160.00/162.50
Kr. Liner 42 lb. M sq. ft. $2.47	117.50/ —
Kr. Corr. .009 M sq. ft. $1.59	122.50/ —
Binders Boards	133.00/ —

The following prices are representative distributors' resale prices:

Rag Content Bonds and Ledgers—
White, 20 lb.

Bonds	4-Ctns. per cwt.
100% Rag. Ex. No. 1	$70.45/$75.90
100% Rag	62.65/ —
75% Rag	48.15/ —
50% Rag	38.90/ —
25% Rag	31.65/ 33.00

Ledgers	4 Ctns. per cwt.
100% Rag Ex. No. 1	$72.65/$72.80
100% Rag	63.90/ —
75% Rag	49.40/ —
50% Rag	40.20/ —
25% Rag	33.00/ 34.30

Sulphite Bonds and Ledgers
White, 20 lb.

Bonds	4 Ctns. per cwt.
Watermarked	$19.00/$20.50
Plain	18.40/ 19.50

Ledgers	4 Ctns. per cwt.
Watermarked	$20.30/$21.80
Plain	19.35/ 20.80

White Book

Conversion Coated	Case per cwt.
No. 1	$23.90/$24.65
No. 2	22.40/ 22.85
Machine Coated	
Extra No. 1	$21.35/$21.65
No. 1	19.15/ 19.65
No. 2	16.65/ 17.40
Uncoated	
No. 1 Antique (Watermarked) ...	$19.15/$19.65
Offset	18.15/ 19.15
A Grade E. F.	18.40/ 18.65
A Grade S. C.	18.90/ 19.15
B Grade E. F.	17.40/ 18.15
B Grade S. C.	17.90/ 18.65

‡ Indicates a price change.

WASTE PAPER MARKET

Prices to mills, per ton, f.o.b. cars shipping point (includes brokers' fee.) These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. See TRENDS.

	New York Oct. 19	Philadelphia Oct. 7	Boston Oct. 16	Chicago Oct. 1
No. 1 Mixed Paper	$7.00/ 10.00	$7.00/ 10.00	$7.00/ —	$10.00/ —
No. 1 News	12.00/ 13.00	11.00/ 12.00	15.00/ —	15.00/ —
Over-issue News	20.00/ 22.00	20.00/ 21.00	12.00/ 14.00	18.00/ —
Mill Wrappers	7.00/ 8.00	10.00/ 12.00	13.00/ 19.00	13.00/ —
Corrugated Containers	17.00/ 18.00	12.00/ 14.00	18.00/ 19.00	20.00/ —
Double Kraft Ld. Corr. Cuts ..	35.00/ 45.00	30.00/ 37.50	25.00/ 40.00	35.00/ 40.00
100% Kraft Corr. Cuts	45.00/ 55.00	40.00/ 55.00	35.00/ 45.00	55.00/ —
Used Sugar & Flour Bags	35.00/ 45.00	27.50/ 37.50	25.00/ 35.00	30.00/ —
Super Resorted Br. Kraft	45.00/ 50.00	25.00/ 32.50	20.00/ 35.00	30.00/ —
New Br. Kraft Env. Cuts	70.00/ 80.00	70.00/ 75.00	55.00/ 65.00	60.00/ —
New Br. Kraft Cuts	60.00/ 70.00	60.00/ 65.00	45.00/ 55.00	55.00/ —
No. 1 Gdwd. Shvs.	20.00/ 30.00	20.00/ 25.00	28.00/ 30.00	25.00/ —
White Newsblanks	65.00/ 75.00	65.00/ 70.00	40.00/ 50.00	50.00/ —
No. 1 Flyleaf Shvs.	40.00/ 50.00	25.00/ 35.00	25.00/ 42.50	30.00/ —
No. 1 Soft Wht. Shvs.	75.00/ 85.00	60.00/ 70.00	75.00/ 85.00	75.00/ —
Super Soft Wht. Shvs.	85.00/ 95.00	65.00/ 75.00	95.00/100.00	85.00/ —
Hd. Wht. Shvs.	95.00/100.00	85.00/105.00	85.00/100.00	90.00/ —
Hd. Wht. Env. Cuts	115.00/125.00	110.00/120.00	105.00/120.00	100.00/ —
New Manila Env. Cuts	65.00/ 72.00	65.00/ 85.00	60.00/ 70.00	40.00/ —
Col. Tab. Cards	55.00/ 65.00	45.00/ 50.00	40.00/ 50.00	50.00/ —
Manila Tab. Cards	70.00/ 85.00	70.00/ 85.00	60.00/ 65.00	65.00/ —
No. 1 Mixed Ledger	40.00/ 50.00	40.00/ 45.00	35.00/ 45.00	50.00/ —
White Ledger	57.50/ 62.50	57.00/ 65.00	55.00/ 60.00	65.00/ —
No. 1 Book & Mag.†	16.00/ 18.00	16.00/ 18.00	18.00/ 28.00	15.00/ —
No. 1 Rep'd. Hvy. Books‡	26.00/ 35.00	20.00/ 25.00	30.00/ 37.50	27.50/ —

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% groundwood. § Deld.

RAG MARKET

New Domestic Cotton Cuttings
OPS Ceiling Price, CPR 28 *
Delivered Mill Basis

No. 1 White Shirts	$15.50/$21.00*
No. 1 Unblchd. Muslins	17.50/ 21.00*
Blchd. & Unblchd. Underwears ..	16.50/ 21.00*
Blchd. Canton Flannels	15.50/ 21.00*
No. 1 Light Silesias	13.25/ 16.00*
No. 1 Light Prints	8.75/ 11.50*
No. 1 Blue Overalls	11.75/ 14.50*
Suntan Khakis	9.00/ 11.50*
Fancy Shirts	7.75/ 10.00*
Indigo Blues	7.50/ 10.00*
Mixed Khakis	6.00/ 8.00*
Corduroys	7.00/ 8.00*
Cottonades	6.75/ 8.00*
No. 1 Washables	5.25/ 6.50*

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.
Mixed White	$3.50/$4.50
Cotton Pants & Overalls	3.00/ 4.00
Thirds and Blues, Repacked	2.50/ 3.00
No. 1 Roofing Rags	1.30/ 1.40
No. 2 Roofing Rags	.90/ 1.00

Bagging
(Prices to Dealers, F.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny	$5.00/$5.25
Heavy Wool Tares	5.00/ 5.50
Foreign Scrap Burlap	4.50/ 4.75
Austr. Wool Pouches	6.00/ 7.00
Domestic Manila Rope	7.00/ 7.50
No. 1 Sisal Strings	6.50/ 7.50

COTTON LINTERS

Memphis Market
F.o.b. Oilmills

		Oct. 16 cents per lb.
Grade 2	1st cut	13.25/ 12.00
3		11.50/ 10.00
4		9.00/ 6.50
5		6.00/ 4.25
6	2nd cut	4.00/ 3.50
7		3.50/ 3.50

PRICES OF MATERIALS

Aluminum sulfate:		
coml. bags, wks.....cwt.	**1.65**	
iron-free, c.l.	**3.25**	
Alcohol, ethyl:		
tax free, dms. c.l.....gal.	**1.01**	**/ 1.05½**
deld. East Miss.		
Alcohol, methyl:		
Synthetic, Zone 1, dms.		
c.l. fit. alld.....gal.	**.44**	
Casein, acid prec.:		
dom. sh. pt. c.l. .....lb.	.28	/ .38
imp. ex. dock .....lb.	.21	/ .25
Caustic soda:		
c.l. wks. solid, 76% cwt.....	**3.35**	
flak. & grd. 100-lb. drums...	**3.75**	
liquid 50% tanks....	**2.55**	
liquid 70% tanks....	**2.65**	
China clay:		
dom. air-float, c.l. wks.....ton	10.00	
water-washed, lump, filler....	**11.00**	
coating	**17.60**	**/30.50**
imported, ex. whse...short ton	15.20	/28.35
Chlorine:		
single-unit tanks, works...cwt.	2.70	
multi-unit .....cwt.	3.20	/ 4.40
Formaldehyde:		
USP, inh. dms, c.l. wks....lb.	**.0625/**	**.0675**
l.c.l., E. wks.....	**.0675/**	**.0725**
Fuel oil:		
Bunker C, No. 6 hvy. tanks, N.Y. harbor .....bbl.	2.10	/ —
light, tanks, refinery .....bbl.	2.00	/ 2.25
Hydrogen peroxide:		
USP, 35% cbys. E. of Miss. lb.	.23½/	.26½
Lime:		
hydrated, bags, wks. ....tons	13.50	
Rosin:		
B gum, drms, c.l. Savan..cwt.	7.00	/ —
K, M, N .....cwt.	7.30	/ 7.36
FF, wood, do. .....cwt.	4.10	/ 6.50
Rosin size:		
70%, gum & pale grds, tank cars, south, sh. pt.....cwt.	**6.25**	**/ 6.30**
Salt cake:		
dom. bulk, c.l. wks.....ton	**17.00**	
wks. frt. all.....ton	**20.00**	**/22.00**
Soda ash:		
light, 58%, bags, wks.....	**1.50**	
bulk .....cwt.	**1.20**	
Sodium silicate, 40°:		
turbid. c.l. wks.....cwt.	**1.30**	**/**
l.c.l. wks.	**1.60**	**/ 1.85**
Sodium peroxide:		
dms. c.l. E. of Miss.....lb.	**.21**	
l.c.l. do. .....lb.	**.21½/**	**.22**
Soybean, protein:		
chem. isol, wks, c.l., bags..lb.	**.23½/**	**.24¼**
Sulfuric acid:		
60° Be. cbys. c.l. wks.....cwt.	**1.75**	**/ —**
l.c.l. wks. .....cwt.	**2.05**	**/ 2.85**
Sulfur:		
crude, c.l. mines, contract, long ton	**21.00**	**/22.00**
f.o.b. vessels Gulf	**22.50**	**/23.50**
Sulfur dioxide:		
liquid, coml. cyl. wks.....lb.	**.09**	
multi-unit cars .....lb.	**.0535**	
Starches:		
pearl corn, bags, c.l. wks...cwt.	**6.59**	**/ —**
white dextrines, c.l. wks...cwt.	**7.97**	**/ —**
potato, Idaho, c.l. wks....cwt.	8.50	/ —
potato, Maine, f.o.b. wks...cwt.	10.50	/11.00
potato, imported O.D. ...bags	8.60	/ 8.90
Talc:		
domestic, sacks, c.l. wks...ton	25.00	/30.00
Titanium dioxide:		
anastase, c.l. deld., bags...lb.	**.21**	**/ .21½**
l.c.l. deld. .....lb.	**.22**	**/ .22½**
rutile, c.l. deld. .....lb.	**.23**	**/ .23½**
l.c.l. deld. .....lb.	**.24**	**/ .24½**

Enlarge Scholarship Program

Dean Ashley S. Campbell of the College of Technology at the University of Maine has announced action taken recently by the Executive Committee of the University of Maine Pulp and Paper Foundation to enlarge the Foundation Scholarship Program to include all departments of the College of Technology and the Forestry department. J. L. Ober, Chester, Pa., vice-president of the Scott Paper Co., is chairman of the Foundation Executive Committee.

Under this enlarged program, tuition scholarships will be available to qualified junior and senior engineering and forestry students who plan to enter the pulp and paper industry and its allied industries.

The dean said that the demand for students especially trained to enter the pulp and paper and allied industries continues to exceed the supply by a wide margin. He pointed out that about one fully trained graduate becomes available each year for every seven mills.

Reports Growth of U. of Me. Pulp and Paper Foundation

J. L. Ober, chairman of the executive committee of the University of Maine Pulp and Paper Foundation, and vice-president of Scott Paper Co., Chester, Pa., in the Foundation's second annual report, expressed satisfaction in what has been accomplished.

Starting only two and a half years ago, from the ideas conceived and fostered by several Maine alumni connected with the paper industry, the Foundation has developed and grown into a modest but well-implemented activity, the outcome of which cannot but be of great help to the industry.

A Membership Committee Report, submitted by T. G. Mangan, Manager, International Paper Co., Livermore Falls, Maine, indicates the Foundation has four scholarship underwriters, 22 company members, 15 special gifts from companies, 130 individual members, and 10 junior members.

Brochure Wins Award

The University of Maine Pulp and Paper Foundation has received word

ANILINE
Printing Presses
without an Equal!

Bag Making Machinery
Years Ahead
in Design!

The Nations Choice by a landslide! H.H.H.

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STAINLESS STEEL CASTINGS
FOR ALL EQUIPMENT EXPOSED TO CORROSION BY SULPHITE ACIDS OR OTHER CORROSIVE AGENTS
MICHIGAN STEEL CASTING CO.
DETROIT 7, MICHIGAN

"Saves 90% of our CLEANING COSTS —"
HYDRO-AIR PRESSURE CLEANER
Mill men are scouring the stock off machine frames, screens, vats, piping *at unbelievable speed*—saving labor and chemicals. Patented gun mixes high-pressure water and air.
Write for Bulletin "P." Hydro Silica Corporation, Gasport, N. Y.
EXPORT OFFICE: 90 West St., New York 6, N. Y.

"best way to clean COUCH ROLLS"

AMERICAN PULP AND PAPER ASSOCIATION'S PAPER PRODUCTION RATIO REPORT

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

1952	Sept. 13	Sept. 20	Sept. 27	Oct. 4	Oct. 11
	86.1	86.8	90.7	90.3r	89.0
1951	Sept. 15	Sept. 22	Sept. 29	Oct. 6	Oct. 13
	99.1	99.8	99.5	101.0	100.3

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1951	99.3	101.3	101.9	102.8	102.2	100.1	88.6	97.7	94.3	100.3	98.0	90.0	98.0
1952	97.1	97.8	95.1	90.6	88.6	88.7‡	75.5‡	86.7‡	82.5‡				

COMPARATIVE YEARLY SUMMARIES

	1945	1946	1947	1948	1949	1950	1951	1952
Year to Date	88.8	100.8	103.8	97.0	86.8	95.4	99.7	90.4
Year Average	85.4	96.9	101.7	92.1	83.7	95.8	98.0	

‡ Preliminary.
r Revised.

PAPERBOARD OPERATING RATIOS†

1952	Sept. 13	Sept. 20	Sept. 27	Oct. 4	Oct. 11
	93	93	94	95	96
1951	Sept. 15	Sept. 22	Sept. 29	Oct. 6	Oct. 13
	94	90	90	88	90

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1951	102	105	104	105	104	103	84	94	86	87	82	75	94
1952	81	86	85	82	82	82	71	89	88				

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

Note: In the above tables *all* the ratios shown are on the basis of a normal 6 and 7 day capacity.

† Per cents of operation based on "Inch-Hours" reported on a 6-day basis to the National Paperboard Association.

that its new brochure "Education for Your Career in the Pulp and Paper Industry" has been awarded a prize for excellence.

The Curtis Paper Co., which each month cites outstanding examples of printed booklets, has selected as its latest prize winner the Foundation's brochure.

The citation accompanying the cash award reads in part as follows: "The text gives a good insight into the course offerings at Maine; also a glimpse of the operations, buildings, and beautiful campus."

Designed primarily to give prospective students information about the pulp and paper program at the University of Maine, the new brochure may be obtained from Professor Lyle C. Jenness, head of the department of chemical engineering.

A. M. MEINCKE & SON
INC.
Materials for Paper Making
A. M. MEINCKE & SON INC. CHICAGO, ILLINOIS
7 SO. DEARBORN ST.
CHICAGO, ILL.

OBITUARIES

Thorne D. Earle, sales manager of the Michigan Paper Co. from 1920 until his retirement in 1946, died October 15 at Plainwell, Mich.

Clifton Senter Hall, 82, of Winchester, a director of the John Carter Paper Co., Boston, Mass., and a member of the firm for 62 years, died October 14 in Winchester Hospital.

Ralph B. Maltby, 76, vice-president and a director of St. Regis Paper Co., died October 10.

Prior to joining the St. Regis organization. Mr. Maltby had been associated with the Hanna interests in Cleveland. He assumed for them the management of a group of paper mills in Northern New York and when the mills of the Hanna Paper Corp. were purchased by St. Regis in 1922, Mr. Maltby became a vice-president and director of the latter company.

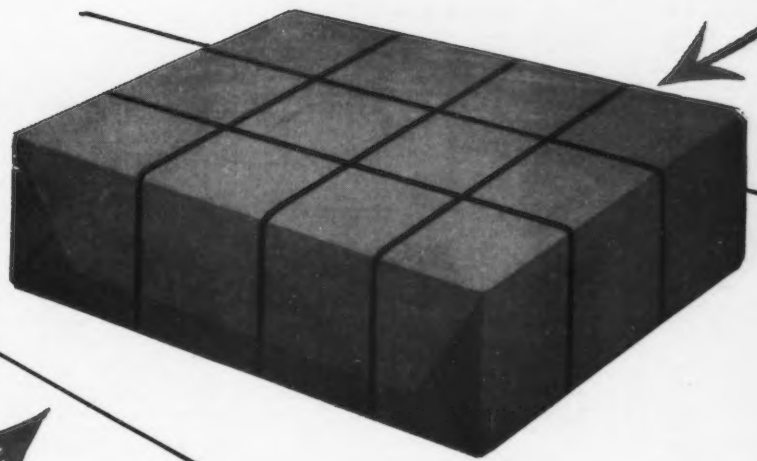
With the acquisition by St. Regis of the business of Bates International Bag Co. in 1930 he took charge of the company's foreign operations. He had been a director and vice-president of Eastern States Corp. in 1928.

Lyddon & Co.

exporters of wood pulp
to all world markets

Parsons & Whittemore

paper exporters
wood pulp



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Sousse Montreal

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10 East 40th Street, New York 16, N. Y.

Paper TRADE JOURNAL CLEARING HOUSE

HELP WANTED

MEN WANTED—POSITIONS OPEN

We can place manager degumming plant (gummed tape); superintendent asbestos-cement shingles, flat sheets and corrugated board; superintendent fourdrinier mach. mill; two night superintendents board mills; production or plant supt. for bag mfg. plant, splendid salary; supt. newsprint mill; asst. supt. board mills, also cylinder and fourdrinier mach. paper mills; superintendent, foremen, mechanics and salesmen for paper converting plants.

Training director; purchasing agents and asst. purch. agents; executive comptroller; salesmen for paper and board, also salesmen to sell products to the paper mills, pulp mills and paper converting plants; power plant supervisors, master mechanics, plant engineers, designers and draftsmen; fourdrinier and cylinder mach. foremen; beater engineers; chemists, chem. engineers and laboratory men; machine tenders; back tenders; sheet cutter foreman.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the pulp and paper mills

CHARLES P. RAYMOND SERVICE, INC.
294 Washington St., Boston 8, Mass.
Telephone Liberty 2-6547

SPECIALISTS IN PLACING AND IN SUPPLYING PULP AND PAPER MILL EXECUTIVES

O-24

RESEARCH CHEMIST

Excellent opportunity for chemist or chemical engineer interested in research and development work with a large organization. Prefer Ph.D. with pulp, paper, paperboard or paper coating experience. Supervisory ability desirable. Send complete resumé to Box No. 52-446 care Paper Trade Journal. N-7

WANTED:—Training Director to handle all phases of management and employee development program. Must be a trained conference leader and have actual experience in training field. Good working conditions. Liberal benefits. Salary open. Company located in the Miami Valley. Reply Box 52-449, care Paper Trade Journal. TF

Waste Paper Buyer or Analyst

National manufacturer needs an experienced man to coordinate its waste paper procurement. Knowledge of the waste paper business is essential. Job will entail market studies, dissemination of essential information to buyers and act in a general advisory capacity to management. Address Box 52-452 care Paper Trade Journal. O-24

HELP WANTED

Starting our second machine. Need Machine Tenders, Back Tenders, Third Hands, and Beater Engineers. One Straight Fourdrinier and One Yankee Fourdrinier. Manufacturing Wrappings, Specialties, Corrugating Medium, and Light Weight Chip. Best of Labor Relations, Insurance, and Liberal Pension Plan. Mill Located about 40 miles from Chicago, Ill.

PRAIRIE STATE PAPER MILLS
JOLIET, ILLINOIS PHONE 3-3441 OR WRITE
TF

HELP WANTED

NIGHT SUPERINTENDENT

For One Machine Folding Boxboard Mill Producing 50 Tons, Located in Miami, Florida. Excellent Opportunity For One Who is Now Tour Boss or Assistant Superintendent. Good Pay Plus Bonus. Box 52-421 care Paper Trade Journal. O-31

GENERAL ACCOUNTANT

Under general direction of comptroller, to supervise general accounting dept., maintain general ledger, develop financial statements, prepare all tax returns, and handle operating budgets. Should have college degree plus at least five years of accounting experience in paper industry. In reply summarize training and experience. Address—Bowaters Southern Paper Corporation, Calhoun, McMinn County, Tennessee. TF

PLANT ENGINEER

To coordinate activities of design engineering firm and contractors during construction. Direct all engineering and maintenance in completed mill. Should have not less than ten years experience in pulp and paper mill maintenance. Experience in maintenance of sulphate pulp production facilities necessary. Familiarity with groundwood and newsprint production desirable. Summarize experience. Bowaters Southern Paper Corp., Calhoun, McMinn County, Tennessee. TF

SUPERINTENDENT

For Paper Mill Manufacturing High Grade Folding Boxboard. Splendid Opportunity with Progressive Firm for Man of Proper Qualifications. Reply to Box 52-453, c/o Paper Trade Journal. TF

PAPER BOARD MILL manufacturing Folding Boxboards, desires thoroughly experienced Back Tender and Beater Engineer. High weekly earnings, steady work, advise full background and experience, Miami Paper Board Mills, P. O. Box 197, Miami International Airport, Miami, 48, Florida. O-24

TOUR BOSS—Shift work. Two machine mill located in northeastern Pennsylvania. Must have thorough experience waxing base stock and lightweight tissues. Reply giving entire personal history, experience, references and salary expected to Box 52-444 care Paper Trade Journal. N-7

PULP RESEARCH AND DEVELOPMENT. Expanding Research Department needs Paper Chemist or Engineer with background of development work in impregnated and specialty pulps. National firm. Location Upper Midwest. Address Box 52-431 care Paper Trade Journal. O-24

HELP WANTED

PAPER MILL SUPERINTENDENT for two-machine newsprint mill in Eastern Canada. Must have long background and thorough experience in newsprint, and be able to take complete charge of Machine Room. Reply giving entire personal history, experience, references and salary expected to Box 52-416, Paper Trade Journal. O-24

WORKING SUPERINTENDENT for small fast growing Eastern mill making lightweight specialties. Cylinder machine experience essential. State qualifications and salary expected. Address Box 52-76 care Paper Trade Journal. TF

SITUATIONS WANTED

PLANT MANAGEMENT

Actual plant management covers ten years for complete range of plain and printed envelopes and papeterie manufacture, ruled items made up for educational and commercial use. Also multi-colored tags, seals and business forms. Have successfully installed management procedures—production control, standard costs, wage incentives, job evaluation, labor relations-negotiations. Background covers complete engineering. Address Box 52-447 care of Paper Trade Journal. O-31

CHEMICAL ENGINEER

B.Ch.E., Family, 38.

Desires to re-associate with pulp and paper industry after absence due to war and subsequent developments. Box 52-436 Paper Trade Journal. O-24

SUPERINTENDENT—25 years practical experience manufacturing folding boxboard and high grade light and heavy weight specialties from sulphite, sulphate, groundwood and old paper stock. Aggressive, capable man, good references. Address Box 52-402 care Paper Trade Journal. O-24

WANTED—Position as Chief Engineer. 20 years experience in Steam Power Plants and heat balance work. Age 46, married. Have first class engineer's license and best of references. Address Box 52-424 care Paper Trade Journal. N-14

SUPERINTENDENT—12 years running Machine, 2 years as Beater Engineer, 4 years as Tour Boss, 2 years as asst. Supt., 5 years as Supt. Experienced in the mfg. of light and heavy wgh. Specialty grades, Facial and Toilet Tissues, Crepeing and Foil Mounting, one time Carbonizing. Both Yankee and Fourdrinier Machines. References. Address Box 52-451 care Paper Trade Journal. O-31

FOR SALE

FOR SALE—2—36" Bauer double revolving disc pulpers in excellent condition. For full particulars write Box 52-450 care Paper Trade Journal. N-14

RATES FOR CLEARING HOUSE ADVERTISING

HELP WANTED—75c a line. Minimum charge $3.75.

SITUATIONS WANTED—75c a line. Minimum charge $3.75. If repeated ½ rate will be charged for each consecutive repetition.

FOR SALE—75c a line. Minimum charge $3.75.

WANTED—75c a line. Minimum charge $3.75.

OPPORTUNITIES—75c a line. Minimum charge $3.75.

Classified advertising space may also be purchased at $5.00 per single column inch. All classified advertisements are payable in advance. If box number is used—70 cents additional

Address replies to advertisements appearing under Box Number in care of
PAPER TRADE JOURNAL, 15 West 47th Street, New York 19, N. Y.

TELEPHONE
HUMBOLDT 2-2177

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265 PASSAIC STREET
NEWARK 4, N. J.

CONVERTING
PAPER MAKING EQUIPMENT

NEW, USED, REBUILT
PAPER AND PULP MACHINERY

AGITATOR DRIVES
2—Cleveland enclosed—3 h.p. Ratio 24 to 1.
1—Foote Bros. enclosed—15 h.p. Ratio 33 to 1.

AIR HOIST
1—5-ton Ingersoll-Rand with Trolley.

BALERS
1—Economy Baler—20¼ x 24 x 49.
1—Economy Baler—18½ x 34 x 42½.
1—Logeman Baler—27½ x 47½ x 62 with GE Motor and Controls.

BEATER FILLING
1—New 54" Beater Filling with ⅜" bars, woods and bed plate.

BLOWERS
1—Sturtevant Monogram Fan, Ball bearing, Size 7.
1—Sturtevant Multivane Fan, Ball bearing, Size 6.

CALENDER ROLLS
16—Chilled Iron Rolls—Assorted sizes.

CALENDER STACKS
1—Farrel Birmingham, 5 roll, 108" Calender with doctors, 2 rolls bored for steam.
1—Black Clawson 90" 7 roll with 2 spare rolls.

COATER
1—Waldron 42" 2 roll Coater. Will apply waxes, gums, lacquers, etc., on cellophane, paper or plastics. New 1946. Used 3 years.

"CYCLAFINER"
1—Shartle "Cyclafiner" with coupling.

CYLINDER MOLDS
1—134" face x 36" diameter, with stainless steel shafts.
1—77" face x 48" dia.—Stainless Steel Shaft.

DAMPENER
1—Valley Micromist Unit for water finish on paper—120" deckle.

DRIVES
1—#3 Reeves anti-friction bearing.
1—#6 Reeves anti-friction bearing with motor for adjustment.
1—Beloit enclosed drive right angle, ratio 3 to 1, with couplings and pulleys.
1—Falk enclosed drive, 100 H.P., ratio 5 to 1.
1—Link-Belt 40 h.p., ratio 2.2-1, 500 r.p.m.—227 r.p.m.
1—Cleveland enclosed drive right angle, 7 h.p., 24¼ to 1 ratio, 1750 r.p.m.
3—#2 Reeves enclosed vertical drives, ratio 3 to 1.

DRYERS
14—160" face x 48" diameter.
2—160" face x 36" diameter.
34—143" face x 48" diameter with frames, gears, bearings, steam joints, etc.
7—137" face x 48" diameter with frames, gears, bearings, steam joints, etc.
13—132" face x 48" diameter with frames, gears, bearings, steam joints, etc.
1—130" face x 48" diameter.
19—127" face x 42" diameter.
1—126" face x 48" diameter.
2—124" face x 48" diameter.
1—117" face x 48" diameter.
2—116" face x 48" diameter.
2—116" face x 36" diameter, with gears and bearings.
3—110" face x 42" diameter, with bearings.
1—104" face x 36" diameter.
2—103" face x 48" diameter.
1—102" face x 48" diameter, with bearings.
1—77" face x 48" diameter—with gear.
39—46" face x 48" diameter, with gears, bearings and steam joints.
3—42" face x 36" diameter, with frames, gears and bearings.

EXTRACTOR ROLLS
1—Downingtown Extractor Roll—128" face x 24" diameter. Anti-friction bearings.

FILTER PRESS
1—New Sperry 12" Filter Press—20 plate.

FILTERS
1—Oliver Vacuum Filter, 10' face x 5' 3" diameter. Steel vat.

FLAT SCREENS
3—8 plate Sandy Hill Roller Shoe with scrapers.
3—Bagley & Sewall 8 plate, with scrapers and plates.

FOURDRINIER SECTION
1—Pusey & Jones 156" x 80' Wire—Ball bearing. Complete from Voith Inlet to 22" diameter suction couch.

FOURDRINIER WIRES
3—New Lindsay 76" x 47 ft. 10"—60 mesh.

"HYDRAPULPER"
1—Shartle-Dilts 16' batch with hydraulic dump valve—cast iron tub.

HYDRAULIC PRESS
1—Thorpe 200 ton. Steam platens, 40" x 40" with pump.

JORDANS
1—#6 Miami, for motor drive.
1—Jones Majestic Stainless Steel Filling.
2—E. D. Jones Pony, 3/16" stainless steel fillings—banded plugs, spare new fillings.
1—Smith & Winchester Standard with granite fillings.

KNIFE GRINDER
1—100" Hanchett Knife Grinder with motor.

MOTORS
1—Allis Chalmers 30 h.p., 440 v., 660 r.p.m.
1—General Electric—25 h.p.—230 volts—3 ph. —60 cycle—300/900 r.p.m.
25 other 440 v. motors from 2 h.p. to 15 h.p.

PULP EQUIPMENT
2—APMEW Ball Bearing Pulp Screens—30 ton capacity—outward flow.
1—D. J. Murray 10' x 25' Barking Drum.

PULPERS
2—#2 Lannoye.

PUMPS
1—New Worthington—bronze filled, 10,000 g.p.m., 35' head, with extended base for motor—spare new impeller.
44—Centrifugal Pumps, open & closed impellers. Direct connected or Belt Driven. Extended base for motor. Assorted capacities and heads. Most used less than one year.

REELS
1—2 bowl 106"—18" diameter iron bowls.
1—2 bowl 94"—16" diameter bowls.
1—Pusey & Jones 162" drum reel, complete with unwind stand and water cooled brake.

REFINER
1—Shartle Hydrafiner with coupling and new spare stainless steel filling.

ROLL GRINDER
1—Lobdell 18' Roll Grinder handles 26" maximum diameter rolls.

ROLLS—PRESS, COUCH, etc.
32—Press rolls, brass and rubber covered.
14—Couch rolls, brass and rubber covered.
250—Brass and steel carrying rolls.

ROTARY SCREENS
1—#2 Bird—Copper vat.
1—#2A Bird—Copper vat.

SAVEALL
1—Bird #5 with enclosed drive and 3 h.p. motor.

SCREW PRESSES
1—Valley Voith Screw Press, size 2.
1—Valley Voith Screw Press—enclosed drive.

SHEETERS
1—Hamblet 124" Duplex Sheeter with maxim layboy—8 roll backstand—motor and starter.
1—Moore & White Simplex 114" Sheeter with slitters—counter. Maxson layboy overlapping delivery. 8 roll backstand, motor and starter.
2—Finley 42", single knife.
1—Moore & White 42", single knife.

SHREDDERS
1—American 37" Hammermill, anti-friction bearing.
1—Jeffrey, 26½" knives, 7 knife rotor, 6 knife bed plate. Ball bearing.

SLITTERS AND WINDERS
1—Beloit 125" Paper Machine Slitter and Rewinder—42" rewind.
1—Hudson Sharp 25W—66" Wax roll slitter and rewinder. New 1947.
1—Cameron 42", Model 6—24" rewind.
1—Cameron 44", Model 9-S.

SMOOTHING PRESSES
2—New Farrel Birmingham 108" face x 24" diameter. Rubber covered, with ball bearings and enclosed drives.

STEAM TURBINES
1—De Laval 225 h.p. Initial pressure 140 p.s.i. Exhaust pressure 35 p.s.i. Complete with gear reducer.
1—De Laval Variable Speed—325 h.p. at 135 gauge and 30 p.s.i. exhaust. Complete with gear reducer.

STOCK PUMPS
1—Shartle 10 x 20 Single Plunger Pump.
2—Beloit 8 x 10 Triplex.
1—Triplex—8 x 10. Used less than 1 year.
2—Shartle Agi-flo, 13" suction, 14" and 4" discharge. Anti-friction bearings.
1—Beloit 10 x 20 Triplex.
1—Moore & White 10 x 16 Triplex.
1—Moore & White 8 x 8 Triplex.

SUCTION BOXES
6—Brass Suction Boxes, 156" x 4" opening.

SUCTION COUCH ROLLS
1—Millspaugh 36" diameter x 234" drilled face with enclosed drive, water cooled bearings, 12" suction boxes.
1—Millspaugh 156" drilled face x 22" diameter Suction Couch. Operated at 1000 ft. per minute.

SUCTION FELT ROLL
1—New Downingtown 186" drilled face x 16" diameter, with anti friction bearings and stands.

SUCTION PRESS ROLLS
1—Sandusky 84" drilled face x 22" diameter, rebuilt.

TOILET TISSUE PERFORATOR
1—Paper Converting Machine Co. Model 141 automatic 81" Perforator, Slitter and Winder—with three motors—ball bearing.

TRANSMISSION ROPE
700 ft.—New 1¼" Hemp Rope.
700 ft.—New 1¼" Cotton Rope.

VACUUM PUMPS
2—Nash ⅓ H-5 Vacuum Pumps.

VOITH INLETS
2—Valley Iron Voith Inlets, adjustable 83" to 86"—brass lip, stainless steel apron.
1—Valley Iron Voith Inlet 156", with motor drive, brass construction. Operated at 1000 ft. per minute.

VORTRAPS
9—4" Stainless Steel with rubber lined heads. 3" Hills McCanna Valves and stainless steel headers.

WRAPPING MACHINE
1—Morrow Stevens type 1C. Package thickness ¾" to 5". Used 30 days.

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4610	Sinclair	88" x 43'2"	60 mesh bronze
3974	Sinclair	69" x 40'4"	60 mesh bronze
31939	Sinclair Saveall Washer	110" x 116"	
91955	Appleton	88" x 43'2"	55 mesh bronze
91893	Appleton	88" x 43'2"	55 mesh bronze
2855	McCluskey	88" x 43'2"	55 mesh bronze
2878	McCluskey	88" x 43'2"	55 mesh bronze
78392	Appleton	69" x 40'4"	65 mesh bronze
49673	Chinney	69" x 40'	75 mesh bronze

Felt No.	Company		
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15120	Albany	26' x 90"	Pulp
15121	Albany	26' x 90"	Pulp
6813	Lockport	28' x 72"	Pulp
6814	Lockport	28' x 72"	Pulp
17147	Albany	28' x 70"	Pulp
17148	Albany	28' x 70"	Pulp
761-FR-1	Asten Hill	90" x 114'	Dryer
6535-F	Asten Hill	80" x 110'6"	Dryer
41596	Woodbury	42½' x 70"	Dryer
52-208	Triumph	42½' x 70"	Dryer
93129-F	Albany	18" dia. x 100"	Length Jackets
8592-C	Albany	18" dia. x 100"	Length Jackets
70516	Woodbury	4 yds. x 90"	Dryer
C 264	Brandon	42½' x 70"	Dryer

Anyone interested in any of the above wires or felts, contact Kleene-Fibre Corporation, Box B, Chatham, New York. Phone 2-3101. O-31

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Paper coating machine, roll face width 116" and drying chamber 130' long. Consists of two rubber covered rolls with unwinding and roll stands. 5 HP roll drive, and 3 HP conveyor drive with speed reducer. 7½ HP dryer, fan, winding rolls, slitting machine, guide unit, and all necessary controls. Complete specifications upon request. Available for inspection. Fabrication cost today would exceed $47,000. (Selling price $21,000.)

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Nopco Chemical Co.
Pittsburgh Plate Glass Co., Columbia Chemical Division
Reichhold Chemicals, Inc.
Rohm & Haas Co.
Virginia Smelting Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

CHESTS
The Bagley & Sewall Company
E. D. Jones & Sons Co.
Kalamazoo Tank & Silo Co.
Midwest Fulton Mch. Co.
The Noble & Wood Machine Co.
Shartle Bros. Mch. Co.

CHUCKS
Efficiency Engrg. Co.

CLEANING MACHINES
Hydro-Silica Corp.

CLEANING MATERIALS
American Cyanamid Company Industrial Chemicals Division
Diamond Alkali Co.
The Dow Chemical Company
E. I. du Pont de Nemours & Co., Inc.
General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Pittsburgh Plate Glass Co.
Wyandotte Chemicals Corp., J. B. Ford Division

CLOTH
Lindsay Wire Weaving Co.

CLUTCHES
Appleton Machine Co.
The Bagley & Sewall Company
Beloit Iron Works
Black Clawson Company
Dodge Mfg. Corp.
Farrel-Birmingham Co.
Hudson-Sharp Mch. Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Bros. Mch. Co.

COATING MACHINERY
Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
The Mayer Machine Co., Inc.
Moore & White Co.
Potdevin Machine Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corporation, John
Weber, Herman G., & Co., Inc.

COATING MATERIALS
American Cyanamid Company Industrial Chemicals Division
The Dow Chemical Co.
E. I. du Pont de Nemours & Co., Inc.
B. F. Goodrich Chemical Co.
The Goodyear Tire & Rubber Company
Hercules Powder Co.
J. M. Huber Corp.
Monsanto Chemical Company
Naugatuck Chemical Division of U. S. Rubber Co.
Nopco Chemical Co.
Plaskon Division, Libbey-Owens-Ford Glass Co.
Reichhold Chemicals, Inc.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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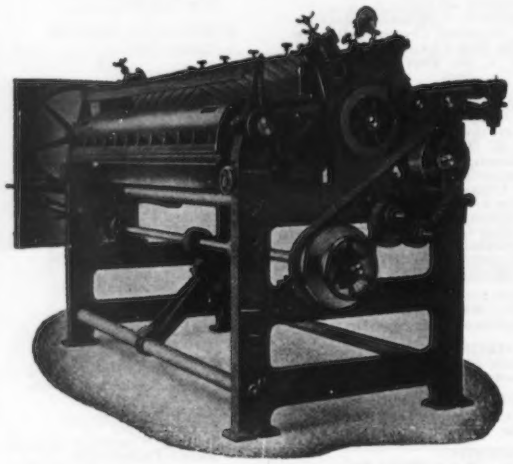

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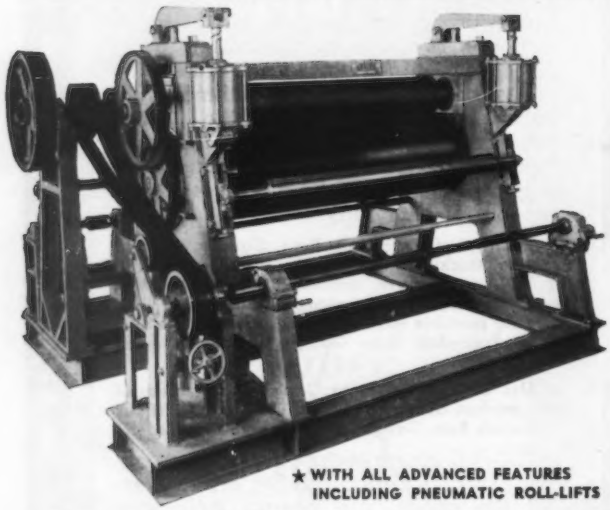

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Waldron Corp., John

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M. W. Jenkins Sons, Inc.

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Kinsley Chemical Co.
Rice Barton Research Corp.
The Sandy Hill Iron & Brass Works
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Nopco Chemical Co.

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DENSOMETERS
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General Dyestuff Corp.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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General Dyestuff Corp.
Nopco Chemical Co.

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Chicago Bridge & Iron Co.
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Lukenweld
Pandia, Inc.
Paper & Industrial Appliances
Pusey & Jones Corp.

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Monsanto Chemical Company
National Aluminate Corp.
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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Bird Machine Company
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Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Simonds Saw & Steel Co.
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Biggs Boiler Works Co.
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Jackson & Church Co.
Lukenweld
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Murray Mfg. Co., D. J.
J. J. Ross Company
Red-Ray Mfg. Co., Inc.
Rice Barton Corporation
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

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Manchester Machine Co.

DRILLED SUCTION DRUM ROLLS
Manchester Machine Co.

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Beloit Iron Works
Bird Machine Co.
Black Clawson Company
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Downingtown Mfg. Co.
Farrel-Birmingham Co.
Jeffrey Mfg. Co.
General Electric Company
Gibbs-Brower Company, Inc.
Manchester Machine Co.
Moore & White Co.
Murray, D. J., Mfg. Co.
Pusey & Jones Corp.
Rice Barton Corporation
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Bros. Mch. Co.
Valley Iron Works Co.

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Rice Barton Corporation

DRYER ROLL PYROMETER
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Thwing-Albert Instrument Co.

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M. W. Jenkins Sons, Inc.
E. D. Jones & Son Co.
Moore & White Co.
D. J. Murray Mfg. Co.
John Waldron Corp.

DUSTING BRUSHES
M. W. Jenkins Sons, Inc.

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Calco Chemical Div.
Ciba Company

E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
National Aniline Division, Allied Chemical & Dye Corp.

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Thwing-Albert Instrument Co.

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John Waldron Corp.

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Holyoke Machine Co.
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Wyandotte Chemicals Corp.

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Vanderbilt Co., R. T.

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Goslin-Birmingham Mfg. Co., Inc.
Jackson & Church Co.
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Swenson Evaporator Co., Div. of Whiting Corp.
Westinghouse Electric Corp.

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B. F. Perkins & Son, Inc.
Ross Engineering Co., J. O
Westinghouse Electric Corp.

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Merrick Scale Mfg. Co.
The Permutit Company

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Asten-Hill Mfg. Co.
Draper Bros. Corp.
Huyck & Son, F. C.
Lockport Felt Co.
Morey Paper Mill Supply Co.
Orr Felt & Blanket Co.
Shuler & Benninghofen
Waterbury Felt Co.
Waterbury, H., & Sons Co.
Williams-Gray Co.

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General Dyestuff Corp.
Nopco Chemical Co.

FELT CONDITIONERS
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The Noble & Wood Machine Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works

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Frank W. Egan & Co.
Gilbert & Nash Co.
Moore & White Co.
The Noble & Wood Machine Co.
Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Waldron Corp., John

FIBRE BOARD MACHINES
The Noble & Wood Machine Co.

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A. M. Meincke & Son, Inc.
Vanderbilt Co., R. T.
Wyandotte Chemicals Corp., Michigan Alkali Div.

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Holyoke Machine Co.
Hungerford & Terry, Inc.
Improved Paper Machinery Corp.
Johnson Corp.
Moore & White Co.
J. O. Ross Engrg. Corp.
The Sandy Hill Iron & Brass Works
Walworth Company

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Crane Company
Grinnell Company
Shartle Bros. Mch. Co.
Walworth Company

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Egan, Frank W., & Co.
Jeffrey Mfg. Co.
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Westinghouse Electric Corp.

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Lukens Steel Co.
Rice Barton Corporation
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Rice Barton Corporation
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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Moore & White Co.
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Beloit Iron Works
Black-Clawson Co.
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Gilbert & Nash Co.
The Moore & White Co.
Mount Hope Machinery Co.
Rice Barton Corporation
John Waldron Corp.

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Crane Company
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Michigan Steel Casting Co.
Walworth Co.

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Monsanto Chemical Company
National Aluminate Corp.
Nopco Chemical Co.
Rohm & Haas Co.

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Aktivin Division. Heyden Chemical Corp.
B. F. Goodrich Chemical Co.
Jackson & Church Co.
Naugatuck Chemical Division of U. S. Rubber Co.
Nopco Chemical Co.
Rohm & Haas Co.

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Babcock & Wilcox Co.
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E. D. Jones & Sons Co.
The Noble & Wood Machine Co.
Shartle Brothers Machine Co.

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Egan, Frank W., & Co.
Manchester Machine Co.
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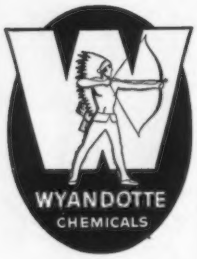

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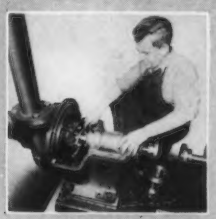
EUGENE FELTING CO.
EAST STROUDSBURG, PA.

DE LAVAL
LIQUOR PUMPS

for tough recovery mill service

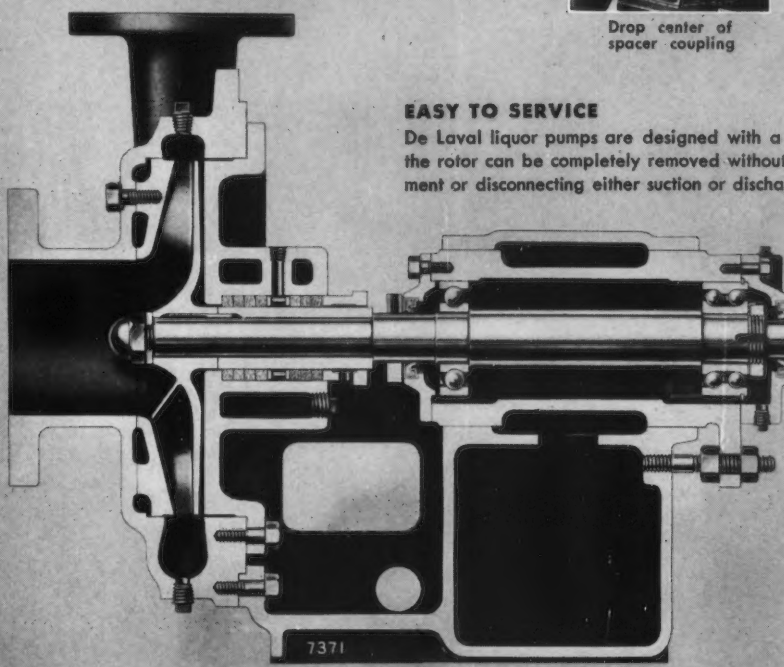


Drop center of spacer coupling

Pull rotor back and lift out

EASY TO SERVICE

De Laval liquor pumps are designed with a spacer coupling so that the rotor can be completely removed without disturbing motor alignment or disconnecting either suction or discharge piping.



SIZES 3" to 6"

CAPACITIES 100 gpm to 2,500 gpm

HEADS 20' to 150'

SPEEDS 1,150 rpm for most services requiring continuous operation

- One piece suction nozzle with single joint minimizes leakage.
- Eductor vanes on back of impeller relieve stuffing box pressure.
- Rotor can be adjusted with external adjusting screw to compensate for wear.
- Oil mist lubrication minimizes bearing friction.
- Extra deep stuffing box has inlet and outlet water seal connections and inlet and outlet stuffing box cooling connections.
- Suction liner is easily and inexpensively renewed.
- Heavy stiff shaft withstands severe operating conditions.

The important design features, shown above, explain why De Laval type CL Liquor Pumps (1) take the punishment of tough recovery mill service for years; (2) cut maintenance costs.

These pumps are especially designed to handle "tough" *corrosive* or *erosive* liquids such as hot or cold acids, alkalies, digester liquors, milk of lime, etc. What's more, De Laval Liquor Pumps are easy to get at for servicing, thus substantially reduce downtime.

Write for Bulletin 1100 giving full application and specification data on De Laval pumps for the paper industry.

DE LAVAL *Liquor Pumps*

DE LAVAL STEAM TURBINE COMPANY

Nottingham Way, Trenton 2, New Jersey

DL142

5 YEARS' SERVICE

Without a Shutdown!

CHAIN drive used formerly on this heavy-duty mill drive was a constant source of trouble, with link-pin breakages causing frequent shutdowns—plus extreme noise and dirt condition—on this drive.

The G.T.M.—Goodyear Technical Man—installed Steel Cable V-Belt Drive in January 1947. *This drive hasn't been touched for any reason since, except one belt take-up after about a year.*

GOODYEAR INDUSTRIAL RUBBER PRODUCTS
GTM-Specified
STEEL CABLE V-BELT DRIVE
replacing chain drive
58" DRIVEN PULLEY
14.5" DIA. DRIVE PULLEY, 600 RPM
MATCHED SET OF 12 STEEL CABLE V-BELTS

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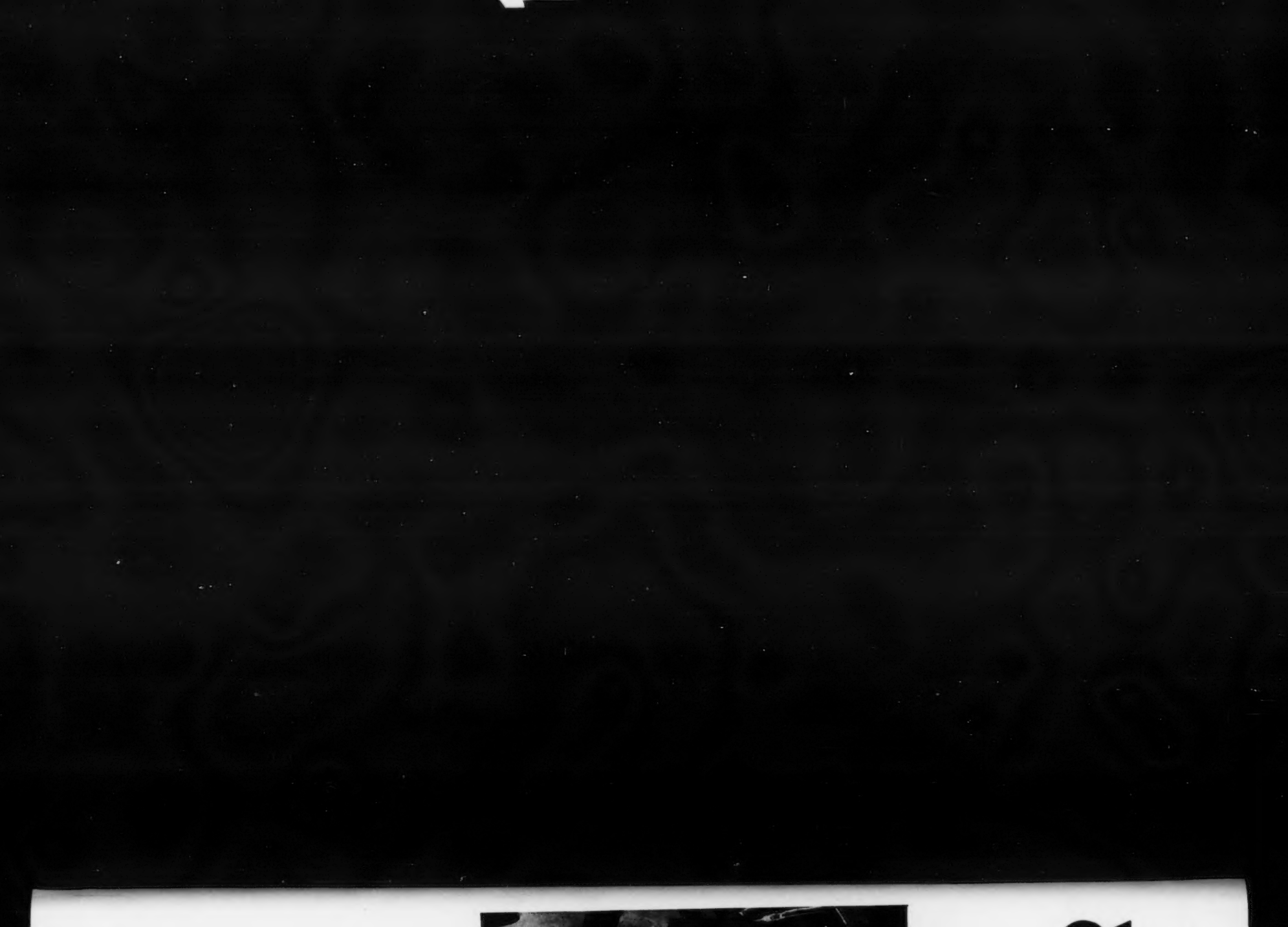
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